UNIVERSITY OF PENNSYLVANIA

STATUS OF THE RURAL TEACHER IN PENNSYLVANIA

LE ROY ALBERT KING

A THESIS

IN EDUCATION

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

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STATUS OF THE RURAL TEACHER IN PENNSYLVANIA.

Chapter I.

INTRODUCTION.

PURPOSE AND PLAN OF THE STUDY.

The purpose of this study is to learn the true status of the rural teacher in Pennsylvania. By the rural teacher is meant the teacher in the one-teacher schools in the open country. The study is restricted for the most part to the facts and conditions pertaining to the teachers in the one-teacher schools. In some instances data will also be given regarding the teachers in two-teacher schools, villages, and boroughs, either for the purpose of helping to verify the conclusions concerning the teachers in the one-teacher schools, or merely to show contrasts and significant similarities.

As to scope, this study endeavors to collect all the data possible relating to (1) the personal, social, and economic status of the teacher; (2) conditions under which the work is conducted; (3) academic and professional preparation and training; (4) certification; (5) experience in teaching and tenure; and (6) salary. Each of these aspects will receive detailed consideration in single chapters as designated.

The material in general will be treated on the basis of the counties reporting as a composite whole, for the purpose of revealing the situation for the entire State, but in some cases individual counties will be used for more specific interpretations. It is not primarily the purpose to compare the data herein set forth with those of other States; in the first place, because of the very limited amount available in this field, and in the second place, because of the time and expense that would be incurred in trying to obtain such material from other States. Again, it is not the aim in dealing with the problems concerning the rural school teacher to set up a definite program for the State, but rather to present some conclusions and make such suggestions as the facts in this study may safely warrant.

ORIGINAL SOURCES AND PROCEDURE FOLLOWED.

(1) Upon investigating what material was accessible bearing upon the topic, it was found that, on account of the meager supply, a questionnaire would have to be formulated in order to get the information necessary for the study of many of its essential phases. Under the direction of Prof. Harlan Updegraff, with the assistance of the fellow members of the seminar in educational administration at the University of Pennsylvania, a tentative questionnaire was framed and distributed among the teachers in several townships in the vicinity of Philadelphia. After a number of trials and modifications of the original questionnaire, caused both by the type of answers given by the teachers, and by the tabulation of these replies in a preliminary study, the questionnaire was finally formulated as here given.

TEACHER'S QUESTIONNAIRE.

1. Educational and professional training:
   (*a*) Did you attend a one-room rural school? ..... How many years? ..... A rural school of more than one room? ..... How many years? .....
   (*b*) Did you attend a village, borough, or city elementary school of eight grades? ..... How many years? .....
   (*c*) In the blank spaces below state further educational preparation, if any.

	Exact length of attendance.	Did you graduate?	Diploma or certificate.
High school	Years ..... and months.....		
Academy	Years ..... and months.....		
Normal school	Years ..... and months.....		
Spring or summer normal course	Weeks.....		
Summer college course	Weeks.....		

2. Have you had any of the above academic or professional training since you began teaching? ..... Where? ..... How long? ..... Kind? ..... What would induce you to get a better academic or professional training for teaching? .....
3. What kind of certificate do you hold? .....
4. Experience in teaching. (Fill out blank spaces below.)

Rural, 1-room school	Number of school years.....	Number of places.....
Rural, more than 1-room school	Number of school years.....	Number of places.....
Village	Number of school years.....	Number of places.....
Borough	Number of school years.....	Number of places.....
City	Number of school years.....	Number of places.....

5. Are you now teaching in a township? ..... In a village? ..... In a one-room rural school? ..... If more than one room, how many rooms? .....
6. How many pupils in your schoolroom? ..... How many recitations or classes do you teach in a day? ..... How many grades? ..... What grades? .....
7. What year did you begin teaching? ..... What was your age when you began teaching? ..... Is this your first year? ..... Age? ..... Sex? ..... Were you born and reared in the country? ..... In a village? ..... Borough? ..... City? .....
8. Are you married? ..... How many children? ..... If unmarried, is any one dependent on you for financial aid? ..... How many? ..... What amount per year? ..... Do you live with your parents or relatives while teaching? ..... Do you stay over Sunday in the community in which you teach? .....
9. What is your salary per month this year? ..... How many months? ..... What was your salary per month last year? ..... How many months? ..... Did you have any other income last year besides your teaching salary? ..... If so, how much per year? .....
10. What was your salary per month the first year you taught? ..... How often have you had your salary increased? ..... On what basis does your district raise salaries? .....
11. Do you pay board? ..... How much per month? ..... How many months? ..... How much per week? ..... How many weeks? .....
12. Did you save money on your salary last year? ..... Approximately how much? ..... Do you think you can save money on your salary this year? ..... How much? ..... Do you carry life insurance? ..... Cost per year? ..... Do you belong to a teacher's protective or beneficial organization? ..... Cost per year? .....

13. Are you a subscriber for a pedagogical or professional magazine?..... Name?..... Cost?..... Do you invest any other money for professional literature?..... Kind?..... Cost?..... Do you have any reference books besides your regular class textbooks?..... What kind?..... Do you have a school library?..... Approximate number of books?..... Have you access to any other library for books or materials for teaching?..... Does your district hold local institutes?..... Are you a member of a reading circle?.....
14. Do you take part in a parent-teacher's association or any other kind of community activity held in your school building?..... Kind?..... Is the schoolhouse used for any kind of community meeting at night?..... Kind?..... How many homes of patrons do you think you visited last year?..... How many visits, approximately, were made by parents to your school last year?.....
15. How many hours last year did the county superintendent supervise your teaching?..... How many hours, the assistant county superintendents? ..... Did your school board visit your school?..... How many? ..... How often?.....
16. How much consideration does the school board in your district give to the county superintendent's or other supervisor's judgment at the time of a teacher's election or re-election? (Answer—None, little, or much)..... Do you believe you will be retained as a teacher next year in your district; or in other words do you have a feeling of security in your position?..... Why? .....

During the school year ending June, 1918, the questionnaires were distributed among the teachers in the one-teacher rural schools of 18 counties of the State. These counties were selected at random, with the exception that special precaution was taken that the eastern, central, and western parts of the State should be represented. It was also planned to include 3 counties in which State normal schools are located. As there are 66 counties in Pennsylvania under county supervision, excluding Philadelphia County, and since 13 of these have State normal schools, it will be seen that this is a fairly proportionate representation. The size of the counties was also taken into account, so that an equitable distribution of large and small counties should be represented in the study.

These questionnaires were distributed at the teachers' institutes of the different counties, and the teachers are represented who voluntarily remained either during the session of the institute or the intermission. In the majority of the counties the writer supervised the distribution of the questionnaires; in cases where it was impossible for him to do this, carefully prepared instructions were sent to the county superintendents to be read to the teachers, so that the questionnaires would be handled in each county in as uniform a manner as possible in order to avoid the least variation in procedure.

The teachers were asked to fill out the questionnaires but were instructed not to insert their names, in order to prevent any hesitancy on their part in giving the facts requested; likewise the county superintendents were assured that their counties would not be referred to by name. These precautions were taken to make the study as accurate and scientific as possible. From the 18 counties there were 1,450 replies received, of which 1,110, or 76.5 per cent, were given by women teachers, and 340, or 23.5 per cent, by men—an average of 80 replies for each county represented. The number of teachers from the different counties who replied averaged 62 per cent of the teachers enrolled in one-teacher schools in each county respectively.

Although all the teachers in each of the 18 counties did not reply to the questionnaire, there is sufficient evidence to establish the belief that those who responded constitute a very fair sampling of the teachers of each county represented. Of the teachers constituting this study, 45 per cent hold provisional certificates, 24.7 per cent professional, 12 per cent permanent, 18 per cent normal school certificates or diplomas, and approximately 0.3 per cent college provisional or permanent certificates. The smaller percentage of teachers holding provisional certificates and the

larger percentage of teachers holding permanent certificates and normal school certificates and diplomas, as compared with the per cent for the State as a whole (Chapter VII), would alone seem to justify this assumption. Consequently, any unfavorable criticism of rural schools of Pennsylvania can not be gainsaid on the ground that an inferior sampling of the teaching group had been made.

The superintendents in some of the counties examined the answered questionnaires and stated that in view of their knowledge of the teachers they believed the replies to be accurate and representative of the teaching force of their respective counties. The complete and illuminating way in which the questions were answered, especially those pertaining to the social and economic status of the teacher, also bears out the judgment of the county superintendents. It is the belief of the writer that the interest manifested by the teachers, after being assured that the main purpose of the questionnaire was to get the facts which might eventually be used for improving the status of the rural school teacher, is evidence that their replies are accurate and reliable.

The replies of the teachers were completely tabulated on 18 record sheets—one for each county represented—outlined so as to set forth clearly the information under such headings as academic and professional preparation, teaching experience, salaries, economic conditions, etc. Each teacher's questionnaire was given a number to coincide with the number on the county record sheet in order to check up or trace an individual teacher's record. These county record sheets made possible the tabulation not only of the total record for each county, but also of the combined record sheet for all the cases, making readily accessible each item covered by the data for the composite group.

It will be observed throughout the study that there is considerable variation between the total number of teachers replying to the questionnaire and those answering individual items. Percentages are usually made on the basis of the number of teachers answering the particular question, rather than upon the whole number of teachers reporting.

(2) Besides the use of the questionnaire above referred to, it was necessary to obtain further original data directly from the county superintendents. They were asked to send a complete directory of the teachers under their supervision for the school years 1918–19 and 1919–20, designating those who were teachers in one-teacher and two-teacher schools in the townships. They also indicated after each teacher's name (1) the kind of certificate held, (2) whether a new teacher without experience, or (3) an experienced teacher transferred to another school, and (4) the teacher's salary. Data regarding these phases of the status of approximately 5,100 teachers were submitted by the superintendents of 30 counties through their official directories. The number of counties and teachers covered by this material will be referred to specifically throughout the discussion.

(3) A questionnaire was sent to each principal of the 13 State normal schools to give and corroborate certain statistics pertaining directly to the training and certificating of rural teachers. Specific reference will be made to this material in certain parts of the context.

SECONDARY SOURCES.

Among the secondary sources furnishing data, the State reports issued by the superintendent of public instruction should be mentioned, particularly the one for 1918. Since the data in the State reports, for the different counties and for the entire State, deal with all the teachers under county supervision as a composite whole, the information was found quite limited, in so far as it was directly applicable to the problem at hand—the teacher in the one-teacher rural school.[1]

[1] Rep. Sup. of Pub. Instruction, Pennsylvania, 1918.

The report on rural schools by a committee of the Pennsylvania State Educational Association, issued in 1914, contributed to the formulation of parts of this study.[2]

Suggestions were obtained from Coffman's "The Social Composition of the Teaching Force," particularly in reference to the social and economic status of the teacher.[3]

The legal basis for this study is found largely in the Pennsylvania School Code.[4] In the case of all other sources and references used, due and proper recognition will be given as each one occurs in the various chapters.

The statistical procedure used in this study is based largely on Thorndike's "Mental and Social Measurements[5] and Rugg's "Statistical Methods Applied to Education,[6] in which the terms and processes used are clearly defined.

THE BACKGROUND.

The 10,038 teachers in the one-teacher schools of Pennsylvania constitute approximately one-fourth of the entire number of teachers in the State and one-half of the teachers under county supervision. The number of teachers in one-teacher rural schools is larger than the total number of teachers of all classes in each of 23 different States of the United States and is approximately equivalent to the total number of teachers in the States of Arkansas, Mississippi, and West Virginia.[7] With the exception of Iowa, with approximately 11,000,[8] and Illinois, with 10,105[9] one-teacher schools, Pennsylvania ranks highest among all the States in the number of teachers in one-teacher schools. The next States in rank are New York, with 8,500 one-teacher schools;[10] Minnesota, with 8,174;[11] and Wisconsin, with 7,000.[12]

These one-teacher schools are distributed for each of the 66 counties of the State (Philadelphia excluded) in the accompanying Table 1. It will be seen that 10,038, or 42.2 per cent. of the entire number of teachers under county supervision—namely, 23,807—are teaching in one-teacher schools, and that approximately 2,394, or 11.3 per cent, are teaching in two-teacher schools.[13] The range of the number of teachers in the one-teacher schools of the different counties extends from 22 to 361 and in per cent from 8 to 96 of the total number of teachers in each county. The median county has 51 per cent of the teachers in one-teacher schools, indicating that one-half, or 33 of the counties, have from 51 to 96 per cent of their teachers in one-teacher schools. It will be noted that counties 23 and 2, which contain large cities, have only 8 and 10 per cent of their teachers in one-teacher schools. On the other hand, counties 29 and 47 have over 90 per cent of their teachers in these schools. Both of these counties are very sparsely populated, having a teacher in a one-teacher school for every 126 and 159 inhabitants.

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[2] Rep. of Rural Educ., committee of the Pa. Educ. Assoc., Harrisburg, Dec., 1914, Part IV, pp. 37–47.

[3] Coffman, L. D.—The Social Composition of the Teaching Population, Teachers College, Columbia University.

[4] School Laws and Appendix for Pennsylvania, 1919.

[5] Thorndike, E. L.—Mental and Social Measurements, Teachers College, Columbia University.

[6] Rugg, H. O.—Statistical Methods Applied to Education, Houghton Mifflin Co.

[7] Rep. U. S. Commis. of Educ., 1917, vol. 2, p. 76.

[8] Rep. Supt. Pub. Instruction, P. E. McClenahan.

[9] Rep. Supt. Pub. Instruction, F. G. Blair.

[10] Engelhardt, "The Teaching Profession in the State of New York" (unpublished). Will appear in the Annual Report for 1918–19 of the Assistant Commissioner of Education, New York State.

[11] Rep. Commissioner of Education, James M. McConnell.

[12] Rep. Supt. Pub. Instruction, C. P. Cary.

[13] Rep. Supt. Pub. Instruction for Pa., 1918, pp. 608–610. Becht, J. George, "A Study of School Consolidation and Transportation." Sixth An. Schoolmen's Week Proc., p. 197.

TABLE 1.—*Number of elementary teachers under county supervision—Number and per cent in one-teacher schools, two-teacher schools, more than two-teacher schools in villages and boroughs—Population and area in square miles.*

County.	Total number of teachers.[1]	Number in one-teacher schools.[2]	Number in two-teacher schools.[3]	Number in more than two-teacher schools.	Per cent in one-teacher schools.	Per cent in two-teacher schools.	Per cent in more than two-teacher schools.	Rural population of counties in 1910.[4,5]	Population per teacher in one-teacher schools.	Area in square miles.	Square miles for one-teacher schools.
Adams	221	151	12	58	69	8	23	34,319	227	528	3.5
Allegheny	1,722	185	114	1,423	10	7	83	839,134	4,536	725	3.9
Armstrong	435	223	38	174	51	9	40	67,880	308	553	2.5
Beaver	403	128	54	221	32	13	55	56,462	431	429	3.3
Bedford	348	223	36	89	64	10	26	38,879	174	1,026	4.6
Berks	604	335	36	233	55	6	39	87,151	263	865	2.6
Blair	301	128	60	113	43	20	37	49,575	387	534	4.1
Bradford	463	219	40	204	47	9	44	54,526	248	1,145	5.2
Bucks	419	189	68	162	45	16	39	76,530	405	608	3.2
Butler	351	222	60	69	63	17	20	51,916	234	790	3.5
Cambria	687	170	110	407	25	16	59	110,649	651	717	4.2
Cameron	58	22	8	28	38	14	48	7,644	347	392	17.8
Carbon	276	55	12	209	20	4	76	52,846	961	406	7.4
Centre	313	159	28	126	51	9	40	43,426	273	1,146	7.2
Chester	468	225	68	175	48	15	37	75,619	336	777	3.4
Clarion	282	172	26	84	61	9	30	36,638	213	601	3.5
Clearfield	560	241	78	241	43	14	43	74,294	308	1,142	4.7
Clinton	177	84	12	81	47	7	66	23,773	283	878	10.4
Columbia	224	113	38	73	50	17	33	48,467	428	479	4.2
Crawford	373	311	44	18	83	12	5	48,785	157	1,038	3.5
Cumberland	290	155	24	111	53	8	39	44,176	285	528	3.4
Dauphin	331	128	28	175	39	8	53	57,720	451	521	4.1
Delaware	363	28	18	317	8	5	87	79,369	2,834	185	6.6
Elk	227	50	28	149	22	12	66	35,871	717	806	16.1
Erie	378	201	20	157	53	5	42	48,992	243	781	3.9
Fayette	749	177	90	482	24	12	64	141,260	798	795	4.5
Forest	64	43	18	3	67	28	5	9,435	219	423	9.8
Franklin	307	197	72	38	64	23	13	47,975	243	751	3.8
Fulton	84	77	4	3	92	5	3	9,763	126	492	5.2
Greene	272	174	20	78	64	7	29	28,882	166	574	3.3
Huntingdon	251	170	18	63	68	7	25	31,443	185	918	5.4
Indiana	443	204	32	207	46	7	47	66,210	324	829	4.0
Jefferson	349	167	30	152	48	9	43	53,932	322	666	4.0
Juniata	90	69	6	15	77	7	16	259,750	3,764	392	5.7
Lackawanna	222	65	20	137	29	9	62	65,333	1,005	451	6.9
Lancaster	650	361	74	215	56	11	33	108,348	300	941	2.6
Lawrence	184	103	30	51	56	16	28	33,752	327	360	3.4
Lebanon	247	119	26	102	48	11	41	40,325	338	360	2.9
Lehigh	371	132	52	187	35	14	51	48,832	369	344	3.1
Luzerne	1,206	150	22	1,034	12	2	86	198,489	1,323	892	5.9
Lycoming	321	197	30	94	61	9	30	48,953	247	1,200	6.1
McKean	211	92	28	91	43	13	44	33,324	362	987	10.7
Mercer	356	207	20	129	58	6	36	62,429	301	700	3.3
Mifflin	127	62	6	59	49	6	45	19,619	316	398	6.4
Monroe	171	102	24	45	60	14	26	22,941	224	623	6.1
Montgomery	486	113	56	317	23	12	65	92,331	818	484	4.3
Montour	48	46	2	.....	96	4	.....	7,351	159	130	2.8
Northampton	368	151	46	171	41	13	66	65,437	433	372	2.4
Northumberland	291	126	22	143	43	8	49	36,965	293	454	3.6
Perry	201	132	8	61	66	4	30	24,136	182	564	4.2
Pike	70	59	4	16	71	6	23	8,033	160	544	10.9
Potter	126	108	12	6	86	10	4	29,729	275	1,071	9.9
Schuylkill	705	155	88	462	22	12	66	145,948	942	777	5.0
Snyder	128	82	12	34	64	9	27	16,800	204	311	3.8
Somerset	477	237	54	186	50	11	39	67,717	285	1,034	4.3
Sullivan	124	72	4	48	58	3	39	11,293	157	458	6.2
Susquehanna	283	148	8	127	52	3	45	37,746	255	824	5.6
Tioga	306	145	18	143	47	6	47	42,829	295	1,142	7.8
Union	109	66	16	27	61	15	24	16,249	246	305	4.6
Venango	229	161	26	42	70	11	19	30,925	192	661	4.1
Warren	233	118	16	99	51	7	42	28,493	241	902	7.6

[1] Rep. Supt. Pub. Instruction for Pa., 1918, p. 610.
[2] Ibid, p. 608. Becht, J. George, A Study of School Consolidation and Transportation, Sixth An. Schoolmen's Week Proc., p. 197.
[3] Ibid.
[4] Smull's Legislative Hand Book of Pennsylvania, p. 389. Population includes only school districts under county superintendents' supervision.
[5] Geographical Gazetteer, Rand-McNally.

TABLE 1.—*Number of elementary teachers under county supervision—Number and per cent in one-teacher schools, two-teacher schools, more than two-teacher schools in villages and boroughs—Population and area in square miles*—Continued.

County.	Total number of teachers.	Number in one-teacher schools.	Number in two-teacher schools.	Number in more than two-teacher schools.	Per cent in one-teacher schools.	Per cent in two-teacher schools.	Per cent in more than two-teacher schools.	Rural population of counties in 1910.	Population per teacher in one-teacher schools.	Area in square miles.	Square miles for one-teacher schools.
Washington	761	280	100	381	37	13	50	115,287	411	862	3.1
Wayne	246	150	14	82	61	6	35	29,236	194	739	4.9
Westmoreland	966	296	144	526	31	15	54	206,517	697	1,039	3.5
Wyoming	130	67	12	51	52	9	39	15,509	231	397	5.9
York	571	330	50	171	61	9	30	91,655	262	903	2.5
Total	23,867	10,038	2,394	11,375	4,222	11.3	46.5	4,595,643		44,832	
Range		22–361	2–144	0–1,423	8–96	2–28	0–87		126–4,536		2.4–17.8
Median county		150	26	111	51	9	39		295		4.2
25 percentile		88	14	51	40	7	28		231		3.4
75 percentile		197	50	186	61	13	50		411		6.1
Quartile deviation		54.5	18	67.5	10.5	3	11		90		1.4

The table shows that the number and per cent of teachers in one-teacher schools in the counties of the State vary greatly on basis of the 1910 census rural population, ranging in number of inhabitants per teacher from 126 in the most sparsely populated county to 4,536 in the county with the largest population. The population per teacher in the median county is 295.

Since the size of the counties in Pennsylvania ranges from 130 to 1,200 square miles, it is not surprising that the range in square miles for each teacher in a one-teacher school extends from 2.4 to 17.8, with the median county showing 4.2 square miles. In the case of the 10 counties with an area of 1,000 square miles or more the per cent of one-teacher schools ranges from 31 to 86. For example, in counties 20 and 52 the county superintendents have 311 out of 373, or 83 per cent, and 108 out of 126, or 86 per cent, of the teachers under their supervision in one-teacher schools. On the other hand, counties 17 and 64 of this group of large counties have 241 out of 560 and 296 out of 966 teachers in one-teacher schools, percentages of 43 and 31, respectively.

Some facts concerning the teacher situation in Pennsylvania.

	Number.	Per cent.
A. NUMBER OF TEACHERS IN 1918–19.		
In State (excluding Philadelphia and Pittsburgh)	35,641	
Under county superintendents' supervision	23,807	100
In villages and boroughs	11,375	47
In one-teacher schools	10,038	42
In two-teacher schools	2,394	11
B. NUMBER OF NEW TEACHERS.		
Under county superintendents' supervision, 1919–20[1]	5,500	23
Under county superintendents' supervision, 1918–19 (without experience)	4,044	17
In one-teacher schools, 1919–20 (without experience)	3,200	32
In one-teacher schools (experienced in a new position)	3,900	39
C. NORMAL-SCHOOL GRADUATES.		
In 1918	1,964	
In 1919	1,750	
In 1920	1,650	
Estimated number of normal graduates entering rural schools in 1919[2]	248	15

[1] Study in Teacher Shortage, Department of Public Instruction, Pennsylvania, 1919–20 (unpublished).
[2] Number estimated, based on the replies to a questionnaire to the normal-school principals.

Chapter II.

SOCIAL AND ECONOMIC STATUS.

Before going into the study of the rural teachers from the point of view of their educational preparation, certification, experience, and salary, we shall consider the more personal factors relating to their social and economic life. It is hoped that by following this procedure we may have a better conception of rural teachers as such, and thus be better able to interpret the conditions and situations later revealed in the major part of this study.

MEN AND WOMEN TEACHERS.

In the accompanying Table 2 the data obtained from the directories issued by the county superintendents for the present year, 1919–20, show that 76 per cent of the 2,743 teachers in the one-teacher elementary schools are women and 24 per cent are men. Comparing these percentages with the State averages for 1918—for women 82.4 and for men 17.6—it will be seen that in these 20 counties represented the per cent of men teachers surpasses the State average for men in 1918 by 6.4.[1] It is interesting to note further that the percentage of men teachers in these counties is also approximately 4 per cent higher than that for the United States as a whole in 1917, which was 19.7 per cent.[2]

TABLE 2.—*Distribution by number and per cent of men and women teachers in one-teacher schools of 20 counties in 1919–20.*

No. of county.	Men.	Women.	Total.	Per cent men.	Per cent women.
1	41	178	219	19	81
2	30	95	125	24	76
3	20	160	180	11	89
4	17	152	169	10	90
5	30	174	204	15	85
6	3	21	24	13	87
7	13	27	40	33	67
8	18	196	214	8	92
9	53	94	147	36	64
10	47	102	149	32	68
11	40	46	86	47	53
12	19	50	69	28	72
13	18	49	67	27	73
14	43	80	123	35	65
15	6	94	100	6	94
16	41	75	116	35	65
17	71	172	243	29	71
18	8	35	43	19	81
19	2	102	104	2	98
20	137	184	321	43	57
Total	657	2,086	2,743	24	76
Range	2–137	21–196	.....	2–47	53–98
First quartile	13	49	.....	11	65
Median	20	94	.....	24	73
Third quartile	41	160	.....	33	87
Quartile deviation	14	56	.....	11	10.5

[1] Rep. Supt. Pub. Instruction for Pa., 1918, p. 633.
[2] Rep. U. S. Commis. of Educ., 1916–1918, Vol. III, p. 16.

While there is very little available material from other States concerning the per cent of men and women teachers in the rural schools grouped apart from all the teachers in the public schools, nevertheless what we do have shows that Pennsylvania has a higher percentage than certain other States. For example, a survey of Nebraska in 1915 showed the percentage of men teachers in the rural schools to be 10.3 and of women 89.7.[3] In 1918, among the white teachers in county schools in Virginia, 9 per cent were men and 91 per cent, women.[4]

A study of the per cent of men and women teachers in the separate counties as shown in the table reveals a wide variation. On the one hand, counties 11 and 20 show 47 and 43 per cent men teachers, respectively, comprising nearly one-half of the teachers in the one-teacher schools. On the other hand, in county 19 only 2 per cent of its 104 teachers are men, and in counties 8 and 15 the men teachers are 8 and 6 per cent, respectively. From these facts it will be seen that the range of the men teachers extends from 2 to 47 per cent, while for the women the range is high, extending from 53 to 98 per cent.

From the data at hand it is difficult to account for the large variation in the number and per cent of men and women teachers in the different counties. It happens, however, that the counties having the highest per cent of men teachers are usually classified as agricultural counties. Through the questionnaire it was learned that in the counties having a high proportion of men teachers the majority were married, lived on farms, and frequently reported substantial incomes in addition to their salaries received for teaching. Owing to such living conditions, teachers remain in the teaching service, thus bringing about greater stability in the teaching force.

AGE OF TEACHERS.

Of the 1,446 cases represented in Table 3, 1,109 are women and 337 men, with ages ranging from 18 to 65 years. The median age of the women teachers is 22, and of the men, 26.7, showing a difference on an average of over 4 years. Although the range in the age of men teachers is practically the same as that of the women, yet there is greater variation and a wider distribution about the midpoint in the case of the men teachers than in that of the women, as evidenced by the quartile deviation of 10 in the first case and 3.5 in the second. The upper 25 per cent of the men and women teachers are beyond 41 and 27 years of age, respectively, indicating more conclusively the higher age of men teachers.

The median age for the combined group of rural teachers in one-teacher schools is 22.8 years, which is approximately the same as the median age for the rural teachers in Nebraska,[5] and South Dakota in 1918,[6] 21.01 years and 22.14 years, respectively. The average age for the rural teacher in one-teacher schools in New York State in 1919 was 27 years.[7]

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[3] The Rural Teacher of Nebraska, U. S. Bul., 1919, No. 20, p. 21.
[4] Va. Pub. Sch. Survey, 1919, p. 135.
[5] The Rural Teacher of Nebraska, U. S. Bu. of Educ., Bul., 1919, No. 20, p. 23.
[6] The Educational System of South Dakota, U. S. Bu. of Educ., Bul., 1918, No. 31, p. 211.
[7] Engelhardt, F. The Teaching Profession in the State of New York.

TABLE 3.—*Total distribution and distribution of men and women teachers in one-teacher schools of 18 counties according to age, followed by 8 typical counties.*

Age.	Total distribution (18 counties).	Men teachers.									Women teachers.								
		Total.	Typical counties.								Total.	Typical counties.							
			1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8
18	129	19			2	1	3	1	2	1	110	5	3	3	8	2	11	11	7
19	175	24			1	1	4		3	4	151	2	7	13	17	11	8	11	7
20	192	26	4	1	1		4	3	1	3	166	6	1	13	27	11	7	13	10
21	148	22			1	2	8		2	4	126	4	7	6	20	12	7	7	2
22	98	18			1		2	1		4	80	2	1	3	15	8	1	3	5
23	91	17			1		8	1	1		74		1	6	11	4	5	5	5
24	74	19		3		1	4	2	1	2	55	1	5	2	7	3		2	5
25	60	16	1	5			2		3	2	44		1	2	11	6	1	1	3
26	34	11		2			1		1	4	23	1		1	5	1		1	1
27	35	6					2				29		2		4	3	1	1	1
28	31	6		1			1		1	1	25	1	3		5	2		2	2
29	32	7		2					1	1	25		1		3	4	1	1	3
30	61	16	1	1		1	1	1	4	3	45	3	1		8	1	3	2	3
32	26	6					1		2	2	20	1	1		2	1	2	2	1
34	28	6		2						2	22	1			2		3	2	2
36	35	15	1	2	1			3	2	3	20	3	1		2		3	2	1
38	32	9		3			3	1		1	23		1	2	4	2	1	4	
40	22	11		1		1	1		2	3	11		1		3	2			1
42	28	15		5		1	1	3		2	13	2			2	2		1	
44	14	10	1	5			1	1		1	4		1		1	1			
46	18	10		2				2	2	2	8				5	1			
48	17	8	1	3				2			9	1		2	2		1		2
50	25	14			1	1	2	2	3	1	11		1		2	2	1		
55	24	13		2			2	4			11	1	2	1	1	1			
60	13	10	1	2			2	2		3	3				1				
65	4	3		1					2		1					1			
Total	1,446	337	10	43	9	9	53	29	33	49	1,109	34	41	54	168	81	56	71	67
Median	22.8	26.7									22.0								
First quartile	20.3	21.7									20.1								
Third quartile	29.6	41.8									27.1								
Quartile deviation	4.7	10.0									3.5								

BEGINNING AGE OF TEACHERS.

Table 4 shows that the median age at which the 1,421 teachers represented began teaching is 19.2, and that the range extends from 15 to 32 years. The 123 teachers who reported their teaching as beginning earlier than at the age of 18 must have begun their work before the enactment of the Pennsylvania School Code of 1911. Twenty-six teachers reported as having entered the teaching profession at 25 or more years of age. The middle 50 per cent of this group ranges from 18.4 to 20.5 years, meaning that 710 teachers, or half the group, began teaching between these years.

TABLE 4.—*Distribution of teachers according to the age they began teaching—Total distribution, followed by 8 typical counties.*

	Beginning age.																		
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Total.
Total distribution (18 counties)	3	24	96	525	318	222	114	54	27	12	3	8	5	3	1	2	3	1	1,421
Per cent	0.2	1.7	6.8	36.9	22.4	15.6	8.0	3.8	1.9	0.9	0.2	0.6	0.3	0.2	0.1	0.1	0.2	0.1	100
Typical counties:																			
1			1	19	13	7	1	3			1	2							47
2		3	11	25	17	12	16	5	3							1			93
3			1	29	17	12	2	1				1							63
4		1	8	40	39	41	16	10	3	1		1	1				1		162
5	2	6	16	61	23	15	7	4	3	1		1	1			1	1		142
6		3	3	34	19	12	5	2	3						1				92
7		3	5	57	28	4	3	3	1	2				1					107
8		2	15	36	31	12	8	5	3	1			1	1				1	116

Median age	19.2
First quartile	18.4
Third quartile	20.5
Quartile deviation	1.1

TEACHERS BORN AND REARED IN THE OPEN COUNTRY.

It has been pointed out repeatedly in the recent literature on rural education that one of the main factors in the success of rural teaching is to know rural life and be in sympathy with its problems. A circumstance which should help teachers secure an insight into and a sympathetic understanding of rural life and customs, especially in the case of those not trained professionally for rural teaching, is their being born and reared in the open country. In the light of this, it was thought advisable to tabulate the data as found in Table 5.

TABLE 5.—*Number of teachers in one-teacher schools born and reared in the open country, villages, boroughs, and cities—total distribution and per cent, followed by 8 typical counties.*

	Open country.	Village.	Borough.	City.	Total.
Total distribution 18 counties	1,003	92	164	99	1,358
Per cent	74	7	12	7	100
Distribution in typical counties:					
1	35	5	3	.....	43
2	64	4	9	3	80
3	122	12	25	8	167
4	30	2	3	4	39
5	88	8	14	27	137
6	53	3	20	8	84
7	78	1	10	13	102
8	100	3	6	4	113

Among the 1,358 teachers who answered the question as to the place of their birth, 1,003, or 74 per cent, were born and reared in the open country; 92, or 7 per cent, in villages; and 19 per cent in boroughs and cities. Since it will be shown later that approximately three-fourths of these teachers had no professional training to fit them for teaching in rural schools,[8] it might, therefore, be considered fortunate that such a large proportion of the teachers represented in this study were familiar with rural life, and had received at least part of their educational experience in a rural school. Many county superintendents state that they would prefer to have teachers under their supervision who possess a sympathetic understanding of the life and customs of rural people rather than to have those who come from boroughs and cities with better academic preparation but unfamiliar with rural work.

TEACHERS LIVING WITH PARENTS OR RELATIVES.

In reply to section 8 of the questionnaire, pertaining to the social life of the teacher, it was found that, out of the 1,160 replies, 739, or 64 per cent, reported they were living with their parents or relatives while teaching; but 348 out of the 739, or nearly half the number, were obliged to pay from their meager salaries a certain amount for board and room.

TEACHERS MARRIED AND SINGLE.

Of the 336 men teachers replying to this part of the questionnaire, 184, or 55 per cent, were married. This probably is a fortunate situation, in that their homes may be made to serve as teacherages and in that it helps to improve the stability of the rural teaching force in many counties of the State. In considering the very small proportion of married women teachers, 60 out of 1,050, or approximately 6 per cent,

[8] See p. 34.

the question might well be raised, especially in these times of great scarcity of teachers, whether a special effort should not be made to induce and encourage more married women either to continue in the service or to reenter the profession of teaching.

BOARD AND LODGING.

Out of the 1,450 replies received, 870, or 60 per cent, reported as paying for board and room. Of this number, 747 were women and 123 were men. The yearly and monthly cost of board and room for the teachers reporting these items of expense are shown in Tables 6 and 7. The outstanding feature of this information is the wide variation in the cost, both on the monthly and yearly basis. For example, it will be seen in Table 6 that the yearly cost of board and room ranges from less than $50 to more than $200. The median cost per year (generally considered the school year) is $121, while the cost for 61 per cent of the teachers ranges from $75 to $150. Probably the most significant fact revealed by a study of this table is that 38 per cent of the teachers pay less than $100 per year for board and room. It should be recognized that these data were collected in 1918, and that in the meantime this item of expense has been very greatly increased. Nevertheless, the facts seem to bear out the opinion generally held that the cost of board and room for rural teachers is considerably less than for urban teachers.

TABLE 6.—*Yearly cost of board and room.*

	Less than $50.	$50–$74	$75–$99	$100–$124	$125–$149	$150–$174	$175–$199	$200 or above.	Total.
Total distribution 18 counties	16	82	213	118	174	84	79	53	819
Per cent	2	10	26	14	21	10	10	7	100
Typical counties:									
1	1	5	6	7	5	2	1	.....	27
2	.....	3	4	2	12	5	6	4	36
3	2	3	21	24	36	19	16	5	126
4	.....	1	19	1	7	1	1	.....	30
5	1	4	13	11	15	6	4	13	67
6	1	11	11	.....	6	1	.....	.....	30
7	1	7	21	16	4	.....	.....	2	51
8	2	10	18	2	1	.....	.....	.....	33

Turning to the individual counties, it will be seen that there is considerable variation in the amount of money expended for board and room. Counties 5 and 8 show a median cost of $133 and $83, respectively. This difference can probably be somewhat explained by the fact that county 8 is principally an agricultural county, while county 5 contains a number of urban communities.

TABLE 7.—*Monthly cost of board and room.*

	$6–$8	$9–$11	$12–$14	$15–$17	$18–$20	$21–$23	$24–$26	$27–$29	$30 or above.	Total.
Total distribution 18 counties	31	86	219	194	217	13	52	4	14	832
Per cent	4	11	26	23	25	2	7	.....	2	100
Typical counties:										
1	.....	1	6	11	11	.....	1	1	1	32
2	3	4	9	9	13	.....	2	.....	1	41
3	2	14	32	27	43	6	10	1	2	137
4	8	8	24	20	19	3	6	.....	2	90
5	.....	7	3	9	27	1	17	.....	2	66
6	.....	14	9	2	7	.....	.....	.....	.....	32
7	1	9	23	11	9	.....	.....	.....	1	54
8	6	9	16	5	1	.....	.....	.....	.....	37

The median monthly cost of board and room, as shown in Table 7, is $16; the range extends from $6 to $30 or more per month. It will be further observed that 75 per cent of the teachers paid from $12 to $20 per month, and that 14 per cent paid less than $12 per month.

TABLE 8.—*Number of months for which teachers pay for board and room.*

	Months.								
	5 or less.	6	7	8	9	10	11	12	Total.
Total distribution 18 counties	21	18	439	178	76	15	.....	70	817
Per cent	2	2	54	22	9	2	.....	9	100
Typical counties:									
1	3	2	27	.....	.....	.....	.....	.....	32
2	.....	.....	9	14	16	.....	.....	4	43
3	2	.....	49	47	26	.....	.....	13	137
4	.....	2	50	17	8	8	.....	13	98
5	2	1	23	19	.....	.....	.....	13	58
6	2	2	28	1	.....	.....	.....	1	34
7	2	1	28	3	.....	.....	.....	2	36
8	4	.....	32	.....	.....	.....	.....	2	38

It will be seen in Table 8 that over 50 per cent of the teachers reported that they paid for board and room for seven months of the year, which is the length of the school term for a majority of the teachers in rural districts. Teachers who paid their living expenses for a period of eight and nine months usually taught in counties in which a large proportion of the school districts have eight and nine months' terms. Eleven per cent of the teachers had to meet these expenses for a period of 10 months or more, while only 9 per cent were obliged to meet them for the entire calendar year.

TEACHERS REMAINING OVER SATURDAY AND SUNDAY IN THE COMMUNITY IN WHICH THEY TEACH.

In most of the recent literature on rural education, particular emphasis has been placed on the matter of whether teachers live in the community in which they are teaching over the week end. It is maintained that in order to be of the best service in a particular school community a teacher should participate in and become a part of the social life of that community. With this idea in mind the following question was formulated: "Do you remain over Sunday in the community in which you teach?" The replies were as follows:

TABLE 9.—*Teachers spending week ends where teaching.*

	Number.	Per cent.
Teachers remaining in community Saturday and Sunday	485	48
Teachers not remaining in community Saturday and Sunday	477	47
Teachers remaining occasionally	45	5
Total number replying	1,007	100

In the first place, it should be noted that only 70 per cent of all the teachers replying to the questionnaire reported the above information, but of those reporting, 48 per cent, or slightly less than half, spent Saturday and Sunday in the community in which they were teaching. Since it will be recalled that 64 per cent of the teachers lived with parents or relatives, a large proportion of this group must be represented in the above 48 per cent.[9] While it was not found practical to trace each one of these individually in order to establish the proportion definitely, yet it was apparent that

[9] See p. 13.

an unusually large percentage were absent from the community at probably the most opportune time for participation in the social activities and life of the people.

INCOME APART FROM SALARY.

The salaries of the teachers under the supervision of county superintendents during the school year 1918-19 were unusually low, as will be discussed more at length in Chapter VII of this study.[10] It will be seen that the median salary of the teachers in the one-teacher schools is as low as $411, with a large proportion receiving the small amount of $315. As teachers can scarcely eke out an existence with such an income, it was deemed advisable to discover, if possible, what proportion of the teachers had an income apart from the salary which they received for teaching.

From the 810 teachers replying, or 56 per cent of the entire number included in this study, it was found that only 25 per cent stated that they had an income apart from their remuneration for teaching. Only two-thirds of this number, or 137 teachers, gave the exact amount of this extra income, which ranges from $25 to $1,000. Approximately one-third of the group had an income of less than $100, and 25 per cent an income of not less than $300, apart from their teaching salaries. The median amount reported is $200, which also happens to be the mode, or the amount reported the greatest number of times. The information explaining how these teachers obtained additional income apart from their salaries was not given in most cases. However, a large proportion reporting the outside income have been usually men teachers who obtained from their small tracts of land a substantial livelihood independent of that received for their public-school work.

MONEY SAVED.

It is rather surprising to note that in spite of the fact that teachers in one-teacher rural schools receive such low salaries, approximately 40 per cent of the 1,024 teachers reporting, stated that they saved money. The amounts saved per year by these 420 vary from $10 to $400. For the group the median amount is $100, which also chances to be the mode. One-fifth of the group saved from $10 to $50 per year, while slightly less than this proportion reported saving from $200 to $400.

To make a more thorough study of the economic life of the teacher one should trace each individual to determine how it is possible to save money from the amount of salary received. It was found, as a rule, that the teachers thus reporting were about equally distributed between the following groups, namely, those living with parents or relatives, consequently having very low living expenses, and those reporting an income apart from the salary received for teaching. However, those not living with parents and not having an outside income independent of their teaching constituted for the most part the group that did not save any money or did not make reply.

DEPENDENTS.

Only one-half of the teachers gave information relating to this question, and of the number reporting, 32 per cent stated that part of their salary was consumed in supporting dependents. Usually these teachers have one or two such persons wholly or partially dependent upon them, the amount of money expended for such purposes ranging from $25 to $350, with a median amount of $175. On the whole, it appears that a fairly large proportion of the rural teachers were obliged either to support parents or relatives, or to give at least in part a substantial portion of their income for the maintenance of the home.

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[10] See p. 60.

INSURANCE AND BENEFICIAL ASSOCIATIONS.

Out of the 973 teachers who answered the question whether they "carry life insurance," it is interesting to learn that only 267, or 27 per cent, reported in the affirmative. The amount of money invested in insurance varies from $5.20 to $150, with an average amount of $30 for the group. It would seem that these figures indicate a fairly large proportion both in number of teachers and amount of money expended in view of the very limited income of rural teachers.

Some of the teachers also reported having joined a beneficial association, with dues ranging from $5 to $15 per year. Only 13 per cent of those reporting had taken such precautionary measures against illness or accident. While the writer knows of two such organizations that have sprung up in the State within recent years, especially intended for the protection of teachers, it would seem from these facts that a very small proportion of the teachers in the one-teacher rural schools have availed themselves of such protection.

AMOUNTS EXPENDED FOR PROFESSIONAL LITERATURE.

An unusually large number of these rural teachers subscribed for educational magazines and reference books for teaching. The kind of material will be discussed in the next chapter. However, it should be noted that a fair proportion of their income was thus expended.

TABLE 10.—*Amounts expended for educational magazines.*

	Cost of magazines.									
	$0.50	$1.00	$1.50	$2.00	$2.50	$3.00	$3.50	$4.00	$5.00	Total.
Number of teachers.	7	122	455	89	46	36	15	6	10	786
Per cent	1	16	58	11	6	4	2	1	1	100

This table shows that 786 teachers paid subscriptions ranging from 50 cents to $5 for educational magazines. Approximately 58 per cent of the group invested the median amount of $1.50, and 14 per cent paid from $2.50 to $5 for such magazines.

TABLE 11.—*Amounts expended for professional literature and reference books.*

	Cost of professional literature and reference books.											
	$1.00	$2.00	$3.50	$5.00	$7.50	$10.00	$15.00	$20.00	$30.00	$40.00	$50.00	Total.
Number of teachers	62	63	44	74	25	24	10	12	3	1	3	321
Per cent	19	19	14	23	8	8	3	4	1	.....	1	100

Twenty-two per cent of the teachers reported investing money in professional literature and reference books ranging in amounts from $1 to $50; the median amount thus expended is $3.50. In the light of the fact that a very small proportion of rural teachers have had professional training, it speaks well for them that there is so strong a tendency among this rural-teacher group, receiving such limited incomes, to invest money ranging from $10 to $50 in educational publications.

Chapter III.

THE TEACHER AT WORK.

In discussing the working conditions of the rural teachers in the one-teacher schools, it is the purpose not to examine them as elements of the organization of the school, but rather to consider them only in so far as they help to throw light on the status of the rural teachers, and explain the tremendous handicap under which they are obliged to work. A number of the topics touched upon herein but slightly might well be continued in a more intensive study.

NUMBER OF PUPILS.

As the size of the school is usually one of the first factors that is given consideration in studying conditions under which any particular group of teachers work, the teachers were asked in the questionnaire to state the number of pupils enrolled in their schools. Table 12 shows that 1,436 teachers reported in 1918 that their schools ranged in size from 3 to 68 pupils. The median number is found to be 26; the 25 percentile 19 and the 75 percentile 35, which facts show that 50 per cent of the teachers had schools under their charge ranging from 19 to 35 pupils.

TABLE 12.—*Number of pupils in one-teacher schools of 18 counties, followed by 8 typical counties.*

Number of pupils.	Total in 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
3- 5	10	1	1	.....	.....	.....	1	1	.....
6- 8	27	1	.....	.....	2	.....	2	5	.....
9-11	50	1	2	1	7	.....	10	3	6
12-14	109	5	6	2	12	.....	12	6	4
15-17	126	4	2	3	15	4	17	11	10
18-20	156	6	6	2	17	11	13	12	9
21-23	132	4	4	3	16	9	7	7	11
24-26	157	8	4	2	24	11	13	2	16
27-29	120	4	3	5	11	13	10	1	11
30-34	205	1	4	7	21	32	8	3	12
35-39	138	5	1	6	20	18	13	1	15
40-44	120	3	3	4	10	23	2	.....	15
45-49	39	2	2	1	4	9	.....	.....	5
50-54	33	1	1	2	3	6	1	.....	4
55-59	8	.....	1	.....	.....	1	.....	.....	1
60 or more	6	.....	.....	.....	.....	1	.....	.....	1
Total	1,436	46	40	39	159	138	109	52	120
Median number of pupils	26	24	24	31	25	32	21	18	28

In view of the very difficult and laborious work usually attributed to teachers in rural schools, it is gratifying that only 25 per cent of the teachers reported schools with an enrollment larger than 35 pupils, and that only 6 per cent of the teachers had 45 or more children under their direct charge. Nevertheless, it should be remembered that in these schools generally all grades from the primary to the eighth and frequently the ninth and tenth were represented.

There is also considerable variation in the size of schools among the 8 typical counties as found in Table 12, in that the median size of schools in county 7 is 18 pupils and in county 5 is 32. In 5 of the counties, however, the median number of pupils for each centers close about the median number for the entire group, namely, 26.

Just as we observe a marked variation in the pupil enrollment in one-teacher schools, so we may note a similar variation both in the number and kinds of grades.

TABLE 13.—*Distribution of grades in one-teacher schools.*

	Grades.										Total.
	1	2	3	4	5	6	7	8	9	10	
Number of schools		19	32	60	131	160	148	426	18	25	1,019
Per cent		1.8	3.1	5.9	12.9	15.7	14.5	41.8	1.8	2.5	100

It is noticeable in the preceding table that the range in grades extends from 2 to 10, with the median falling in the group reporting 7. Inasmuch as the largest number of schools are found to have 8 grades, it is evident that the county superintendents are carrying out the program suggested in recent years by the State department of public instruction of grading and grouping the pupils on an eight-grade basis, as has generally been practiced in the urban schools.[1]

Although a large proportion of the teachers, 72 per cent, have the pupils grouped in 6, 7, or 8 grades, yet it is quite significant that 23 per cent report 5 or less grades, and 4 per cent, 9 and 10 grades. The latter condition is usually found in schools in which the advanced pupils either repeat the grammar-school subjects or pursue the study of one or more high-school subjects which may possibly be added to the regular elementary school work. In the case of teachers reporting 5 grades, it is found that there are a number of one-teacher rural schools with large pupil enrollment who hold to the traditional scheme of grading their schools in 5 divisions.

A diversity of grading similar to that which prevails in the group as a whole is apparent in the different counties. Several of the counties show a fairly large proportion of schools with large pupil enrollment having 4 or 5 grades, while in two others 7 and 8 grade schools largely predominate, thus showing on the part of supervisory officers the pursuance of different policies of grading and grouping pupils.

NUMBER OF DAILY RECITATIONS.

The number of daily recitations in the program of the teachers in one-teacher schools for the 1,350 teachers reporting this information is shown in Table 14. The number of class recitations is found to range all the way from 9 to 50 per day. However, since only two teachers reported as having the almost incredible number of 50 recitations, it is probably safer to say that the upper range for the group is approximately 45 recitations per day. The median number is 25.6, falling within the largest group reporting 24 to 26 classes. The middle 50 per cent extends from 22 to 30 recitations. Probably the most significant fact revealed by these data is that 25 per cent of the teachers reported as having 30 or more class recitations per day, and 7 per cent of these 35 or more per day.

[1] Course of Study for Elementary Schools of Pa., 1918, State Dept. Pub. Instr. Koch et al., p. 9.

TABLE 14.—*Number of recitations per day in one-teacher schools in 18 counties, followed by 8 typical counties.*

Number of recitations.	Total, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
9-11	4	1	.....	.....	1	3	2	.....	1
12-14	37	.....	.....	.....	3	7	1	.....	2
15-17	38	.....	.....	.....	5	6	3	1	3
18-20	182	.....	2	11	31	9	5	7	4
21-23	209	4	4	19	31	4	9	13	7
24-26	396	14	13	7	60	10	48	17	21
27-29	146	2	13	2	18	10	14	2	19
30-34	246	20	7	3	16	39	18	3	43
35-39	60	2	1	.....	2	28	1	.....	6
40-44	22	.....	.....	.....	1	7	1	1	7
45-49	8	.....	.....	.....	2	4	1	.....	.....
50	2	.....	.....	.....	.....	2	.....	.....	.....
Total	1,350	43	40	42	168	129	103	44	113
Median number of recitations.	25.6	30	27	23	25	31	26	24	30

Since the length of the school day is approximately 5½ hours, or 330 minutes, exclusive of intermissions, it can be seen that teachers having 30 or more recitations per day would average approximately 10 minutes per recitation. These facts certainly give some proof of the very strenuous work that teachers in one-teacher rural schools are obliged to do, especially in a school of 25 or more pupils.

In the 8 typical counties represented in the table the medians range from 23 in county 3 to 31 recitations per day in county 5. Although the teachers in three of these counties report 30 or more recitations, we are glad to point out that the data show that three others of the group have an average of 25 or fewer recitations.

Since approximately 20 per cent of the entire group, as we have already pointed out, have 20 or fewer recitations per day, there seems to be direct evidence, at least in some of the counties, of a tendency to lighten the teacher's work and to improve her efficiency by following the suggestions of the State department of education in 1918 in the Course of Study for the Elementary Schools.[2] In the suggested daily program contained in the State course, the allotted time provides for 23 recitations per day, including the opening exercises. It is doubtful, however, whether in the average daily program for a rural school, with a fairly large enrollment of pupils divided into 7 and 8 grades, the required work can be covered with less than 25 recitations per day.

In comparison with the very limited data that we have from studies relative to the topic of class recitations in rural schools of other States, it would appear that Pennsylvania ranks very well. In South Dakota the number of daily recitations in open country schools was found to be 26.65.[3] In the State of Colorado the number of recitations for all the schools in the counties, including villages, averaged 22. However, in the one-teacher schools the number of recitations in many cases is reported as high as 37.[4]

RELATION BETWEEN NUMBER OF PUPILS AND NUMBER OF DAILY RECITATIONS.

In representing the relation between the number of daily recitations and the number of pupils enrolled, it will be seen in Table 15 that in the group of 141 teachers reporting an enrollment of 18 to 20 pupils the range in daily class recitations extends from 12 to 45, with a median of 26. In the case of the group of 198, with an enroll-

[2] Course study for Ele. Schs. of Pa. State Dept. Pub. Instr. Koch et al., p. 8.
[3] Educational System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 114.
[4] Administration and Support of the Colorado School System. U. S. Bu. of Educ. Bul., 1917, No. 5, p. 76.

ment of 30 to 34 pupils, there is an equally wide range in class recitations per day. Where the enrollment is over 35 there seems to be a tendency toward an increase in the number of recitations.

TABLE 15.—*Number of pupils in one-teacher schools in relation to number of daily recitations.*

Number of pupils.	Number of recitations.												Total number of pupils.
	9–11	12–14	15–17	18–20	21–23	24–26	27–29	30–34	35–39	40–44	45–49	50	
3–5		1	1	1	3	2							8
6–8		2	3	11	4	6	1						27
9–11		1	3	8	14	14	2	6					48
12–14		8	5	11	14	32	15	8	1	1			95
15–17	1	2	1	13	32	40	11	10	1				111
18–20		4	2	16	19	53	15	24	2	1	2		141
21–23		3	2	27	25	27	9	25	6	2	1		127
24–26		4	4	18	21	53	20	27	8	2			157
27–29		2	1	12	12	22	12	33	7	1			102
30–34	2	3	8	24	26	67	15	35	13	3	2		198
35–39	1		3	15	19	30	15	25	7	4		1	120
40–44		1	3	11	14	32	12	33	6	4	1		117
45–49		1		4	2	7	7	11	4	1			37
50–54			2	7	1	5	5	8	3		1	1	33
55–59				2		1	3	1	1				8
60 and over				1	1	2	2						6
Total number recitations	4	32	38	181	207	393	144	246	59	22	7	2	1,335

r=.20 P. E.=±.018.

Looking at this table with the number of recitations primarily in mind, it will be seen that the teachers reporting class recitations in the class intervals from 18 to 20 and from 24 to 26 per day show practically similar distributions in the number of pupils enrolled, with the median number of pupils approximately 25 in each distribution. Beyond 27 daily recitations there is an evident increase in the number of pupils enrolled. The correlation, while positive, is not high, namely r=.20 P. E.=±.018 (Pearson's Product-Moment Method). This means that schools having the largest number of pupils enrolled do not necessarily have the greatest number of class recitations per day.

In discussing the number of pupils, the grouping into grades, and the number of daily recitations, it has been the purpose primarily not in any way to make an exhaustive study of each of these phases of the school, but rather to throw light, if possible, on the tremendously large and difficult task that many of the teachers in one-teacher rural schools are called upon daily to perform. An average enrollment of 26 pupils with 7 or 8 grades and a daily program of 26 or more recitations were typical of the average working conditions, not to mention the group of nearly 50 per cent of the teachers whose pupil enrollment, number of grades, and daily recitations far surpassed these averages.

In discussing further the working conditions of the teacher, we shall take into account the information given in the questionnaire concerning the agencies which should help to make their work more efficient during service. Therefore, we shall tabulate the answers given to parts 13, 14, and 15 of the questionnaire as found in chapter 1.[5]

SCHOOL LIBRARIES.

In answer to the question whether there was a school library, only 1,044, or 72 per cent, of the teachers replied. In Table 16 it will be seen that 31 per cent answered affirmatively, 41 per cent negatively, and 28 per cent did not reply.

[5] See p. 3.

TABLE 16.—*Per cent of teachers reporting school libraries, total per cent followed by 10 typical counties.*

	Total, 18 counties.	Typical counties.									
		1	2	3	4	5	6	7	8	9	10
Per cent reporting libraries	31	30	25	26	37	63	64	44	28	12	66
Per cent not reporting libraries	41	38	65	60	50	25	1	29	56	71	15
Per cent not replying	28	32	10	14	13	12	35	27	16	17	19

Great differences seem to exist among the separate counties. For example, in counties 5 and 10, school libraries were reported by 63 and 66 per cent of the teachers, respectively. On the other hand, counties 9 and 2 indicate the opposite extreme, in that only 12 and 25 per cent thus reported. The reason for these differences must be left largely to conjecture, since no definite information was given to indicate conclusively the exact causes.

The teachers were asked to state the approximate number of books filed in their libraries. These data are tabulated in the following table:

TABLE 17.—*Number of books in one-teacher school libraries.*

	Number of books.											Total.
	10	20	30	40	50	75	100	150	200	300	400	
Number of teachers reporting	58	85	64	31	76	30	43	23	14	5	4	423
Per cent	14	20	15	8	15	7	10	6	3	1	1	100

It will be noticed here that the range in number of books extends from 10 to 400. Nearly 50 per cent of the 423 teachers who gave this information reported libraries with less than 40 books, and 21 per cent reported libraries with 100 or more volumes. Although only 423, or 29 per cent of the whole number of teachers upon which this study is based, reported as having a definite number of books in their school libraries, yet these comparatively few teachers should be highly commended for the efforts exerted by them, frequently with the aid of pupils and ofttimes at a personal sacrifice.

ACCESSIBILITY TO OTHER LIBRARIES.

In reply to that part of question 13 of the questionnaire asking whether teachers had access to any other libraries for obtaining books and materials for teaching, it is interesting to note that 924, or 64 per cent, of the teachers replied, of whom 398, or 43 per cent, reported in the affirmative. In view of the slight variation among the different counties, this condition seems to have been quite prevalent throughout the counties represented in this study.

LOCAL INSTITUTES.

Since it is generally known that all teachers in Pennsylvania are obliged to attend either county or district teachers' institutes for five days, we shall not discuss in detail this agency as a means for the training of teachers. However, since most of the county superintendents in Pennsylvania encourage, or actively participate in the organization of many local or district institutes throughout their counties, the question was asked of the teachers, how far they availed themselves of this opportunity. There were 824 teachers who replied to this question, of whom 591, or 72 per cent, reported that they had attended such educational meetings. From this large proportion of

affirmative replies it is evident that local institutes play a part in helping to develop teachers in the rural districts.

In order to learn what opportunities the teachers in rural schools have for personal growth and development, they were asked whether they were members of a reading circle. Thirty-one per cent of the 1,017 teachers replying said that they were members of such an organization. This low percentage may probably be expected because of the physical difficulties that teachers in rural communities must necessarily experience in attending such meetings.

PROFESSIONAL LITERATURE.

To ascertain further the opportunities of which teachers in the one-teacher rural schools individually availed themselves, they were requested to state the kind of professional literature for which they subscribed, such as educational magazines and reference books. It is shown in the previous chapter that teachers expended a fairly large percentage of their salaries for material of this kind. Of the entire number of teachers comprising this study, 1,114, or 77 per cent, gave this information, of whom 1,015, or 91 per cent, reported that they subscribed for educational magazines. Among the number thus reporting, 879 gave the names of the magazines as described in the following table:

TABLE 18.—*Educational magazines subscribed for by teachers in one-teacher rural schools*

Kind of magazines.	Number.	Per cent.
Normal Instructor	460	52.3
Primary Plans	36	4.1
Primary Education	28	3.1
Popular Education	17	2.0
Educational Journal	7	.8
Child Life	3	.3
Pennsylvania School Journal	3	.3
Progressive Teacher	2	.2
Teacher's Work	2	.2
IN COMBINATIONS.		
Normal Instructor and Primary Plans	156	18.0
Normal Instructor and Pathfinder	62	7.0
Normal Instructor, Primary Plans, and Pathfinder	17	1.9
Normal Instructor and Primary Education	13	1.5
Normal Instructor and Popular Education	11	1.3
Primary Education and Popular Education	10	1.2
Primary Plans and Popular Education	9	1.0
Normal Instruction, Primary Plans, Popular Education	6	.7
Normal Instruction, School Journal, and Pathfinder	4	.5
Normal Instructor and Educational Journal	5	.6
Educational Journal and Pathfinder	3	.3
Normal Instructor and The Century	3	.3
Normal Instructor and Educational Foundations	2	.2
Normal Instructor and Current Events	1	.05
Primary Education and The Century	1	.05
Miscellaneous	18	2.1
Total	879	100

From the data at hand we have no evidence as to how far these selections of educational magazines carried out the suggestions of the list of educational journals as submitted by county superintendents in the different counties, but in talking this matter over with several of the superintendents of counties represented in this study, the writer learned that in many cases the teachers followed the suggestions of an agent in selecting magazines either separately or in attractive combinations.

Besides the educational magazines in the foregoing list, a small percentage of the teachers reported as subscribing for the following magazines and periodicals: Review of Reviews, Home Economics, Good Housekeeping, Popular Mechanics, New Century, World's Events, The American, World's Work, Youth's Companion, Saturday Even-

ing Post, Geographic Magazine, Pathfinder, Current Events, Nature Study, Bird Life, newspapers, etc. None of the above was named more than 10 times, with the exception of the Pathfinder, which was named 48 times, Current Events, 35 times, and Geographic Magazine, 20 times.

Relative to reference books, approximately 22 per cent of the teachers gave information. The following were named most frequently: The Encyclopedia, the Dictionary, the Standard Dictionary of Facts, Century Book of Facts, Stoddard's Lectures, Book of Knowledge, Books on Teaching, Books on Theory, Story Books, Classics, Public School Methods, Supplementary Text Books, etc.

SUPERVISION BY COUNTY AND ASSISTANT COUNTY SUPERINTENDENTS.

Inasmuch as it is generally understood that scores of teachers in the rural schools are new and inexperienced in the work and frequently have very limited academic and professional training, it was deemed advisable to determine, to some extent at least, how much time was actually spent by county and assistant county superintendents with rural teachers for supervisory purposes. These data are tabulated in Table 19, of which Division A shows that the time spent by county superintendents in supervision, according to the replies of 1,006 teachers from 18 different counties ranges from a quarter of an hour to eight hours during the school year. The median is found in the group of 404, or 40 per cent of the number, who reported supervision for a period of one hour. It is most significant that 66 per cent of the teachers replied that county superintendents could spend only one hour or less in supervising their teaching work.

TABLE 19.—*Number of hours per school year teachers in one-teacher schools are supervised—Distribution for 18 counties, followed by 8 typical counties.*

DIVISION A.—COUNTY SUPERINTENDENTS.

Number of hours.	Total distribution, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
¼	46	.....	1	.....	.....	17	4	2	.....
½	215	4	12	.....	6	45	12	16	23
1	404	12	31	.....	8	38	15	38	35
1½	71	6	4	.....	1	4	2	13	5
2	159	7	6	3	1	10	8	3	8
3	38	.....	2	2	1	2	4	.....	3
4	39	.....	.....	4	.....	1	.....	1	1
5	17	.....	.....	1	.....	.....	.....	.....	.....
6	4	.....	.....	.....	.....	.....	.....	.....	.....
7	6	.....	.....	3	.....	.....	.....	.....	.....
8	6	.....	2	2	.....	.....	.....	.....	.....
Total	1,005	29	58	15	17	117	45	73	75

DIVISION B.—ASSISTANT COUNTY SUPERINTENDENTS.

Number of hours.	Total distribution, 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
¼	9	3	.....	.....	.....	.....	1	.....	1
½	68	6	2	.....	2	20	6	.....	6
1	175	.....	5	.....	2	44	12	.....	12
1½	54	.....	3	.....	1	16	2	.....	2
2	204	3	26	.....	8	25	10	.....	10
3	78	.....	4	.....	2	20	7	.....	7
4	36	.....	4	.....	3	.....	2	.....	2
5	13	.....	2	.....	.....	3	1	.....	1
6	5	.....	.....	.....	.....	1	1	.....	1
7	5	.....	1	.....	1	1	.....	.....	.....
8	10	.....	3	.....	.....	.....	2	.....	2
Total	655	12	50	.....	19	130	44	.....	44

In observing the 8 typical counties in Division A, it is apparent that the range and median time spent in supervision are practically the same in all the counties with the exception of counties 3 and 7—the counties among the group according to Division B, that do not have supervision by assistant county superintendents. This is due to the fact that by law counties with less than 200 teachers are not entitled to an assistant superintendent.[6] But note the contrast—in county 3, having 22 one-teacher schools out of the approximate 60 schools supervised,[7] the teachers in the one-teacher schools reported supervision ranging from 2 to 8 hours; on the other hand in county 7 in which the number of schools approaches 200, with approximately 125 one-teacher schools,[7] very little supervision can necessarily be given to the rural teachers, as has been shown by the replies from two-thirds of the teachers, who stated that they have received one hour or less of the superintendent's time in supervision. While this latter county superintendent probably gave as much time in supervision to the schools as most of the others representing the group of 8 counties, the extra supervision received by the teachers in the other counties through their assistant superintendents was practically denied his county with 125 one-teacher schools by the rather arbitrary State law.

In Table 19, Division B, 655 teachers reported the amount of time spent in supervision by assistant county superintendents in their schools, respectively. While the range in time is the same as in the case of the county superintendents, the median is found in the group of teachers reporting two hours of supervision during the school year. Since 54 per cent, or over one-half, of the teachers in counties having assistant county superintendents reported supervision of two or more hours during the school year, it is apparent that teachers received, on the basis of the data reported, considerably more supervision from assistant county superintendents than from county superintendents. This condition would naturally be expected, inasmuch as the county superintendent is responsible not only for the supervision of every school under his jurisdiction, but also for the administration of his office. It seems remarkable that these school officials could devote as much time to the schools as herein reported, not only because of insufficient professional help, but in many cases because of the lack of sufficient clerical help and proper office facilities.

At this point the reader's attention should be called to Table 1 in Chapter I, in which are set forth certain difficulties relative to supervision in the various counties that county superintendents are obliged to face, such as the large number of one-teacher schools, sparsity of population, and size of county. To study the first of these problems more specifically, in county 41 the superintendent with only one assistant has 321 teachers under his supervision, of whom 197, or 61 per cent, are employed in one-teacher schools; in county 28 the superintendent with also one assistant superintendent has under his charge 307 teachers, with 197, or 64 per cent, in one-teacher schools; while in county 20 there are 373 teachers, with 311, or 83 per cent, one-teacher schools, likewise supervised by the superintendent with the aid of only one assistant superintendent. In counties 36 and 66 there are 650 and 571 teachers under the county superintendent's supervision, with 361 and 350 teachers in one-teacher schools, respectively; but the superintendent in the former county has 3 assistants, while in the latter the superintendent has but 2, although the two counties have practically the same number of one-teacher schools.

It would seem that in order to provide additional professional supervision for rural teachers, instead of using the arbitrary plan providing for one assistant for 200 to 400 teachers, and one additional assistant for 400 to 600 et cetera,[6] the number and distribution of one-teacher schools should be given careful consideration, to say nothing at

[6] School Laws of Pennsylvania, and appendix, 1919, Art. XI, sec. 1126.

[7] Teachers' directories issued by county superintendents, 1919–20.

this time of such other factors as the size of the counties, sparsity of population, and number and size of school districts.

It is not the purpose to elaborate on these data any further or to suggest possible constructive measures, but rather to set forth the situations in the State as they exist, namely, the lack of professional supervision and assistance given to teachers in the rural schools, and emphasis upon the need for immediate additional assistance for county superintendents, in order to make the time spent in supervising rural schools at all comparable with that devoted to supervision in borough and city schools. These conditions certainly must tend to discourage many of the teachers without any previous experience, and undoubtedly cause scores of them to enter urban schools or leave the profession altogether.

SCHOOLS VISITED BY SCHOOL BOARDS.

Since the school laws of Pennsylvania provide that "boards of school directors shall exercise general supervision over the schools of their respective districts, and shall, except in districts having district superintendents or supervising principals, by one or more of their number visit every school in the district at least once a month," [8] the question was asked of the teachers in the rural schools whether the school boards had visited their schools the previous year. Of the entire number of teachers included in this study, 694, or 48 per cent, supplied this information. Sixty-nine per cent of those replying say that their schools were visited by the school boards, and the number is distributed in the following table:

TABLE 20.—*Number and per cent of school directors visiting one-teacher rural schools.*

	Number of directors.					
	1	2	3	4	5	Total.
Number of schools represented	141	134	108	58	65	506
Per cent	28	27	21	11	15	100

The median number of directors visiting schools is found in the group who reported visits by two directors, and in only 65, or 15 per cent, of the schools was it reported that the entire board consisting of five members observed the teacher actually at work.

TABLE 21.—*Number and per cent of visits made by school directors in the one-teacher schools.*

	Number of visits.										
	1	2	3	4	5	6	7	8	9	10	Total.
Number of schools represented	294	88	33	15	18	5	12	8	8	2	483
Per cent	61	18.2	6.9	3.2	3.7	1	2.4	1.6	1.6	0.4	100

This table shows that the median number of visits made by school directors in one-teacher schools is found in the group reporting one visit. It may be interesting to point out that 294 reporting one visit comprise 61 per cent of the group. The school code, it should be recalled, provides that the boards shall exercise general super-

[8] School Laws of Pennsylvania, and appendix, 1919. Art. IV, sec. 408.

vision over the schools, but it does not specifically refer in any sense to their supervision of instruction.

This brings us to the question of whether school boards do give consideration to the judgment of county superintendents in the election or reelection of teachers to positions in their school districts. In reply to this question, as found in section 6 of the questionnaire, unfortunately only 50 per cent of the teachers have given this information. These replies are tabulated in the following table:

TABLE 22.—*Consideration that school boards give to judgment of county superintendents in the election or reelection of teachers.*

	Number.	Per cent.
No consideration	180	23
Little consideration	342	47
Much consideration	203	30
Total	725	100

In studying the above table and discounting the fact that only one-half of the teachers from the 18 counties comprising the study furnished this information, it is most significant to learn that 70 per cent of the teachers reported that the school boards gave none or very little consideration to the judgment of county superintendents in exercising their very important function of electing or reelecting teachers to the schools in their respective districts. When it is recalled that 31 per cent of the teachers reported that the school boards do not visit their schools, one can not help but point out the fact that teachers certainly receive very little intelligent consideration from many school boards as far as their professional welfare is concerned. These conditions emphasize all the more strongly the need for a centralized county organization, especially in its relation to local school boards, if the teachers in the one-teacher schools are to be assured of the consideration which they so rightly deserve.

COMMUNITY INTEREST AND SUPPORT.

In closing this discussion of the conditions under which the teachers in the rural communities are obliged to work, it is of interest to see just what support and cooperation the teachers in the one-teacher rural schools received from the patrons and residents of the school community. The teachers were asked to give this information in several parts of the questionnaire. In the first place they were asked, "Do you take part in a parent-teachers' association or any kind of community activity held in your school building?" The following table contains the replies:

TABLE 23.—*Teachers reporting parent-teachers' organizations and other community activities.*

	Number.	Per cent.
Teachers reporting parent-teachers' association or other community activities	293	28
Teachers who do not have such organizations	720	72
Total	1,013	100

It is quite apparent from the above replies that teachers in the rural communities have very little community cooperation and support in an organized way as is shown by the small percentage, 28, who reported such an organization. In some cases it may have been impossible to have such a community organization, but we are glad

to learn that teachers in many rural schools made it a practice to visit the homes in their respective communities and that the parents also frequently visited the schools. In reply to the direct question covering these facts, 515 teachers, or 36 per cent, reported that it was their practice to visit the homes of parents. The average number of homes visited by the group thus reporting is 7. At the same time, 483, or approximately 33 per cent, of the parents showed an interest in the work of the schools by making frequent visits during the school year. The average number of visits reported by this group is found among those who received eight such visits from parents.

In communities having one-teacher schools, interest and cooperation in the work of the public schools on the part of patrons and residents frequently has a very direct bearing upon the kind and condition of the school and especially upon the social and economic life of the teacher who is called upon to serve in such a community. This support and interest on the part of the citizens is undoubtedly as vital to the teacher's personal welfare as the support of county and local school officials is to her professional welfare.

Chapter IV.

ACADEMIC AND PROFESSIONAL TRAINING.

Because of the important part which the teacher's academic and professional training plays in the conduct of school, it is most essential that in a study of the rural teacher this phase should receive careful analysis. The facts in this discussion are based entirely upon the replies in the questionnaires furnished by the teachers themselves.

ELEMENTARY EDUCATION.

Table 24 shows for the year 1918 the elementary education of a group of 1,440 teachers in the one-teacher rural schools in 18 counties of the State. The range in years of the 1,192 teachers, or 80 per cent of the total group, receiving their early education in townships extends from 5 to 12 years, and of the 248, or 20 per cent, in boroughs, from 5 to 11 years. The median length of elementary education in both cases is found in the group reporting as having an elementary education of 8 years, which is the equivalent of 68.2 months on the basis of 7.6 months, the average length of school term for townships, and 70.8 months on the basis of 8.6 months, the average length of term for boroughs.[1]

TABLE 24.—*Elementary education in years of teachers in one-teacher schools in townships and boroughs—Total distribution and per cent for 18 counties.*

DIVISION A—IN TOWNSHIP SCHOOLS.

	Years.								
	5	6	7	8	9	10	11	12	Total.
Total distribution 18 counties	20	114	164	423	228	147	66	30	1,192
Per cent	2	9	14	36	19	12	5	3	100

DIVISION B—IN BOROUGH SCHOOLS.

	Years.								
	5	6	7	8	9	10	11	12	Total.
Total distribution 18 counties	4	28	46	119	26	23	2	.....	248
Per cent	2	11	19	48	10	9	1	.....	100

There is much similarity between Division A and Division B, as shown by the ranges and the medians. Probably the greatest difference between the two is found in their respective distributions, the former showing 39 per cent attending elementary schools for a period longer than 8 years, the latter only 20 per cent for practically the same length of time. It is probable that, among those teachers who report elementary

[1] See Table 46, p. 66.

education for a period of 11 or 12 years, high-school training may be included, inasmuch as they do not answer the part of the questionnaire pertaining to secondary education. This is more likely to be true in the case of the teachers receiving their elementary training in townships rather than in boroughs, since only 36 per cent of the former completed this education within the period of 8 years, as compared with 48 per cent of the latter.

These facts can be explained in part in that rural schools in townships frequently have classes that extend beyond the eighth grade of the elementary school. It is not at all uncommon to find nine grades and sometimes more in one-teacher rural schools. The highest, or "A," class in many of these schools frequently spends three or more years repeating the more advanced elementary-school subject, with the addition, probably, of algebra or Latin or some other high-school subjects, depending probably somewhat on the ability and choice of the individual teachers. This type of school, however, is rapidly passing out of existence, and in its place many school districts have developed a high school of the second or third class, or they have transferred the pupils to another district for instruction beyond the elementary grades.

In contrast with these facts, it is most interesting to note that the percentage of teachers attending elementary schools for a period of 7 years or less is as high as 32 per cent for those securing their early education in boroughs and 25 per cent for those receiving their early training in townships.

SECONDARY EDUCATION.

In examining Table 25, which shows the secondary education for the same group of 1,440 teachers in one-teacher rural schools from 18 counties of the State, it will be observed that 39 per cent of the teachers reported in the questionnaires that they had had no secondary education. Seven per cent had attended a secondary school for less than one year, 4 per cent for one year, 11 per cent for two years, 17 per cent for three years, and 22 per cent reported as having completed a four-year secondary school course. It is only fair to state that inasmuch as the proportion of two and three year high schools available among the high schools of the State was, for example, 90 per cent in 1908 and 64 per cent in 1918, at least three-fourths of those reporting as having attended high school for two and three years were usually graduated from their high schools.[2] The 98 teachers stating that they had attended a secondary school less than a year in most cases attended a private academy, of which there are quite a number throughout Pennsylvania, ranking about the same as the high school.

TABLE 25.—*Secondary education of teachers in one-teacher schools—Total distribution for 18 counties, followed by distribution in 8 typical counties.*

DIVISION A—DISTRIBUTION BY YEARS.

	Teachers reporting.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Total distribution (18 counties)	1,440	566	874	98	57	157	247	315
Distribution in typical counties:								
1	46	19	27	1	1	6	11	8
2	99	63	36	4	1	5	17	9
3	92	39	53	3	2	4	11	33
4	105	38	67	4	2	8	22	31
5	110	45	65	20	9	19	9	8
6	40	20	20	3	1	2	5	9
7	65	13	51	2	3	6	15	25
8	109	46	73	17	7	20	11	18

[2] Eleventh An. Rept. High School Inspectors, State Dept. of Educ. of Pa., July, 1918, p. 14.

TABLE 25.—*Secondary education of teachers in one-teacher schools Total distribution for 18 counties, followed by distribution in 8 typical counties*—Continued.

DIVISION B—DISTRIBUTION IN PER CENT.

	Teachers reporting.	Without secondary education.	With secondary education.	Secondary education in per cents.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Per cent	100	39	61	7	4	11	17	22
Distribution in typical counties:								
1	100	40	60	2	2	13	25	18
2	100	64	36	4	1	5	17	9
3	100	42	58	3	2	4	12	37
4	100	34	66	4	2	8	21	31
5	100	40	60	19	8	18	8	7
6	100	50	50	7	3	5	13	22
7	100	22	78	3	5	9	23	33
8	100	39	61	16	6	18	10	11

Among the group of 39 per cent constituting the teachers who reported no secondary education, it must be pointed out, as will be discussed more in detail in the next chapter,[3] that they held all types of certificates, and that 60 per cent of those holding permanent certificates reported that they had no secondary education. At the same time the answers showed that teachers just entering the profession with provisional certificates had the highest percentage of secondary school training.

Another consideration should be taken into account when interpreting these data, namely, that a small percentage of the teachers who reported no secondary education attended elementary schools in rural communities with 9 and 10 grades, of the type described earlier in this chapter. Then, again, a small proportion of those reporting only elementary educational preparation attended an academy or local county normal school for a period of six weeks before securing a teacher's certificate. In tracing the education of each teacher in a number of typical counties, it was found that this group constituted from 10 to 15 per cent out of the 39 per cent reporting no secondary education. This means, after making all possible deductions on the basis of the answers given by the teachers themselves, that on a very conservative estimate the number of teachers not having had any secondary education is approximately 25 per cent.

This conclusion is further corroborated by a recent study in teacher shortage made by the bureau of certification and training of teachers of the State department of public instruction, in which it is set forth that 25 per cent of the teachers holding provisional and professional certificates have had only elementary education, and that 2 per cent out of these 25 per cent had not even completed this elementary training.[4] This information was submitted to the State department by the county superintendents, and covers the teaching force for the current year 1919–20.

Two facts, however, should be kept in mind in analyzing the data issued by the State department: First, that teachers holding permanent certificates are not included, which, on the basis of this study, would undoubtedly raise the percentage of teachers not having had secondary education;[5] and second, that the data comprise all teachers under county supervision rather than the teachers in one-teacher schools, exclusively, tending therefore to lower the percentage of teachers without secondary education, since a much larger proportion of the teachers in one-teacher rural schools hold provisional and professional certificates than in the two-teacher rural, village, and borough schools.[6]

These facts would all the more strongly warrant the conclusion that, as before stated, 25 per cent of the teachers without secondary education in one-teacher schools

[3] See p. 48.
[4] Study in Teacher Shortage, Dept. Pub. Instruction of Pa., 1919–20 (unpublished).
[5] See p. 49.
[6] See pp. 39, 40.

is surely not too high an estimate, and the exact per cent would likely be between the 25 per cent and the 39 per cent recorded by the teachers themselves in the questionnaires.

On the basis of the data presented, applying these percentages to the 10,000 teachers in one-teacher rural schools of the entire State, it would mean that approximately—

3,900 began teaching without secondary education; of these, 2,500 from the elementary schools without any additional training, 1,400 with ninth and tenth grade advanced elementary training.
700 with secondary training of less than one year.
400 with secondary training of one year.
1,100 with secondary training of two years.
1,700 with secondary training of three years.
2,200 completed a four years' secondary course.

10,000, total.

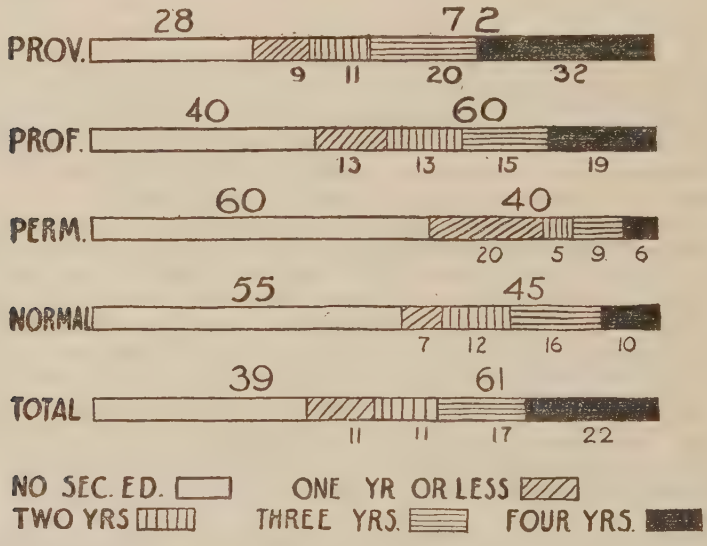

DIAGRAM 1.—Percentage of teachers in one-teacher rural schools, by certificates, on the basis of their secondary education.

The secondary education of the teachers represented in the 8 typical counties in Table 25, Division B, following the distribution for the entire group of 18 counties, shows considerable variation. In the first place the range in percentage of teachers having secondary education extends from 36 to 78. Among those who have finished a four-year course in a high school or an academy, the difference in per cent between the lowest county and the highest one is 31, county 5 indicating 7 per cent and county 7 indicating 38 per cent. While there is evidently considerable variation in the counties in the number of teachers spending less than four years in high school, the counties showing the large proportion of teachers with two and three years of high-school education possess a goodly number of two and three year high schools, respectively, throughout their counties.[7]

Counties 5 and 8 stand out prominently because of the large number of teachers who reported attending secondary schools less than one year. This may be due in part to the fact that private academies are located in these counties offering both to teachers in service and to prospective teachers a spring or summer normal course for a period of six weeks. While it is not our purpose at this point to discuss fully these academies which conduct normal school courses, yet the influence of these schools in

[7] Eleventh An. Rept. Pa. State H. Sch. Inspectors, p. 14.

the counties where they are located is quite marked, as will be shown in the latter part of this discussion dealing with the training of teachers in service. The counties that have this type of school show a higher percentage of teachers with academic or professional training than those counties which do not possess schools offering similar opportunities either for prospective teachers or for teachers in service.

In comparison with other States from which we have data, it appears that Pennsylvania on the basis of this study does not rank very well in the number of teachers with secondary education in one-teacher rural schools. It should be remembered that the percentages for Pennsylvania are strictly for one-teacher schools and that in some of the other States cited all rural schools, including village schools of two and more than two teachers, were considered.

TABLE 26.—*Education of teachers in one-teacher rural schools.*

	Alabama.[1]	Colorado.[2]	Nebraska.[3]	Pennsylvania.	South Dakota.[4]	Virginia.[5]
Elementary education only	16.0	7	4	[6] 25	.....	9.6
One year of high school or less	10.1	.....	9	18	.....	3.3
Two years of high school	17.2	16	16	18	.....	9.4
Three years of high school	18.0	.....	15	17	.....	10.2
Four years of high school	38.0	[7] 35	36	22	[7] 58	[7] 41.0

[1] Educational Study of Alabama, U. S. Bu. of Educ., Bul., 1919, No. 41, p. 349.
[2] Administration and Support of the Colorado School System, U. S. Bu. of Educ. Bul. 1917, No. 5, p. 74.
[3] The Rural Teacher of Nebraska, U. S. Bu. of Educ. Bul. 1919, No. 20, p. 31.
[4] Educational System of S. Dakota, U. S. Bu. of Educ. Bul., 1918, No. 31, p 213.
[5] Virginia Public School Survey, p. 334.
[6] See explanation p. 31.
[7] Per cents do not total 100.

PROFESSIONAL TRAINING.

To consider the professional training of this group of teachers in the one-teacher rural schools means, under the present certificate system in Pennsylvania, practically the exclusive consideration of those teachers who have attended a State normal school. This information is tabulated in Table 27, which shows that, out of 1,445 teachers, 1,105, or 76 per cent, report having had no State normal school training. This indicates that the remaining 340, or 24 per cent, attended a normal school for a period ranging from 6 weeks to 4 years in length, of which number 264, or 18 per cent completed the normal school course. It will be seen that this percentage of normal school graduates is higher than the average, which is 14 per cent for the entire State of Pennsylvania, based on the reports of 28 counties in 1919, as will be explained in the next chapter.[8] This helps to substantiate the view that a good proportion of the better educated and professionally trained teachers in each of the counties represented in this study answered the questionnaires.

TABLE 27.—*Distribution of teachers on the basis of normal school education in preparation for teaching—Total distribution for 18 counties, followed by 8 typical counties.*

	Teachers reporting.	Without normal school education.	With normal school education.	Normal school education.					Normal school graduates.	Per cent with normal school education.	Per cent normal school graduates.
				Less than 1 yr.	1 yr.	2 yrs.	3 yrs.	4 yrs.			
Total distribution 18 counties	1,445	1,105	340	40	42	142	91	25	264	.....	.....
Per cent	100	76	24	3	3	10	6	2	18	.....	.....
Distribution of Typical Counties:											
1	47	34	13	9	2	2	.....	.....	2	28	4
2	99	43	60	6	6	21	20	7	55	61	56
3	62	43	19	4	2	8	5	.....	13	31	21
4	40	28	12	.....	5	5	1	1	5	30	13
5	110	68	41	2	16	18	4	1	37	37	34
6	53	37	16	3	1	4	5	3	12	30	23
7	107	83	24	5	3	10	3	3	13	22	12
8	119	99	22	11	2	5	4	.....	9	18	7

[8] See p. 40.

The largest group of teachers, namely 10 per cent, of those reporting State normal school education had attended for a period of two years, indicating that these either had graduated from a four-year high school and spent two years in a normal school, or had attended a State normal school for a period of two years under what was known as the two-year course which existed for a period of years prior to the year 1904.[9] During that time it was possible for a student to complete the elementary school and graduate from a normal school in two years without any preliminary education. From 1904 to 1914, normal schools in Pennsylvania had what was known as a three-year course, which admitted students either from an elementary school or from a high school, meaning that the 6 per cent group in the table attending a normal school for three years in most cases had entered the school without any high-school education. The 25 teachers reporting that they had attended a normal school for four years are usually persons who had gone to the normal school directly from the elementary grades, thereby making it serve both as the secondary school and the professional training school.

In the individual counties following the general distribution, the range in per cent of teachers having attended a normal school extends from 18 to 61, while for those who completed the normal course, th per cents range from 4 to 56. Counties 2 and 5, having the largest number of teachers who attended and graduated from a normal school are 2 of the 13 counties of the State in which State normal schools are located.

Undoubtedly the most significant fact as brought out in these data is that at least 76 per cent of the teachers in the one-teacher schools entered upon their work without professional training in State normal schools by the examination route, made possible by the Pennsylvania certificate system, which will be discussed more at length in the next chapter. We have very little comparative data from other States pertaining exclusively to the rural school teacher, yet from the meager information we do have, it appears that Pennsylvania ranks very low. For example, in South Dakota, according to the recent school survey of that State, it is estimated that 45.8 per cent of the teachers attended professional schools and that 54.2 per cent entered the rural schools without professional training.[10] In Alabama it is also estimated that 63.6 per cent of the teachers teaching in rural and village schools had no professional preparation.[11] While the rural schools as defined in both of these surveys may not be as closely confined to the one-teacher school as in this study, yet the comparison is most significant in that Pennsylvania, on the basis of the number of cases represented in this discussion, ranks lower than a typical western and a typical southern State.

In New York State only 8 per cent of the teachers in one-teacher schools are graduates of State normal schools, a percentage considerably lower than that for Pennsylvania.[12] However, "approximately 60 per cent of the teachers in these schools have had one year of professional training in training classes either added to four years of high school, or added to an incomplete high-school course."[13] Since the State of Pennsylvania has no teacher training institutions specially intended to prepare elementary teachers other than the 13 State normal schools, it would seem at least on the basis of comparison with our neighboring State New York, with its 11 State normal schools, that these facts give us additional evidence in favor of the immediate establishment of larger and more adequate teacher training facilities in Pennsylvania.

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[9] Pennsylvania State Nor. Sch. catalogues. Proc. State Normal School Principals.
[10] Educ. System of S. Dak., U. S. Bu. of Educ. Bul., 1918, No. 31, p. 231.
[11] Educ. Study of Alabama, U. S. Bu. of Educ. Bul., 1919, No. 41, p. 349.
[12] See p. 40.
[13] Engelhardt. "The Teaching Profession in the State of New York."

TABLE 28.—*Distribution of normal-school graduates in one-teacher schools for 18 counties on the basis of preliminary secondary education.*

	Normal school graduates.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than 1 year.	One year.	Two years.	Three years.	Four years.
Total distribution 18 counties	264	144	120	4	13	32	43	28
Per cent	100	55	45	2	5	12	16	10

An important observation that can be made from these data is the great variation in the amount of time actually spent in a normal school. This can probably be best explained by observing Table 28, which shows the percentage of the group of normal school graduates referred to in Table 27 from the standpoint of their preliminary secondary education. The range in time spent in a secondary school extends from six weeks to four years. Of the 45 per cent, or less than one-half, of the normal school graduates reporting as having had preliminary secondary education only 10 per cent had finished a four-year high-school course, and 16 and 12 per cent stated that they had three years and two years of high-school education, respectively. It is, indeed, most interesting to note that 55 per cent of the teachers holding normal-school certificates or diplomas had gone directly to a State normal school without any secondary education.

These data help to explain the tremendous variation in length of time spent in the normal schools by those who had graduated, as was brought out earlier in this discussion. Since the normal schools in Pennsylvania have been admitting students with all kinds of academic preparation, ranging from the pupil who had finished the eighth grade in the elementary school to one who had completed a four-year high-school course, it is quite evident that one must naturally expect to find such tremendous variations both in the case of the preliminary secondary education and in that of the time spent in the normal school.

ACADEMIC AND PROFESSIONAL TRAINING DURING SERVICE.

The different kinds and amount of academic and professional training of which the teachers in the one-teacher schools avail themselves during service are tabulated in Tables 29 and 30. In the first place, it should be noted that only 1,085, or approximately 75 per cent, of all the teachers who replied to the questionnaire gave this information. Of those who reported, 676, or 62 per cent, have had no academic or professional schooling since entering the teaching profession. Of the 38 per cent who reported such supplementary training 10 per cent attended summer academies, 8 per cent summer local or county normal schools, 12 per cent summer normal schools, and 6 per cent summer colleges, all ranging from one to four summer terms of six weeks each. In studying more in detail the kind of institution selected by these teachers in individual counties, it was found that two factors predominated in determining this selection—first, the kind of certificate held by the teacher, and second, the kind of school most accessible. The former was found true from the fact that teachers usually select a school that helps them to obtain the academic schooling in such branches as algebra, general history, plane geometry, etc, studies in which they are called upon to pass an examination to qualify for either a professional or permanent certificate. This will be more specifically discussed in the next chapter in considering the academic and professional preparation and training in service of the teachers holding the different types of certificates.

Chapter V.

CERTIFICATION.

There are seven different kinds of teachers' certificates issued in Pennsylvania—provisional and professional, valid only in a county or district, and permanent State certificates, normal-school certificates, normal-school diplomas, provisional college certificates, and permanent college certificates, valid throughout the State. The four kinds of certificates commonly held by rural teachers may be described as follows:[1]

TABLE 31.—*Principal features of teachers' certificates in Pennsylvania.*

NAME OF CERTIFICATE.	ISSUED BY—	VALID IN—		DURATION.	PERSISTENCE
Provisional	County or district superintendent.	County or district (nonindorsable).	Branches named.	One year	May not teach more than 5 school terms on certificate.
Professional	County or district superintendent.	County or district (indorsable by other county or district superintendents in districts of 2d or 3d class).	...do...	Three years	Not renewable more than 3 times; renewable on examination in 2 of the elective branches for a professional certificate not before offered by the applicant.
Permanent	State superintendent of public instruction.	State	...do...	Life	
State normal-school certificates.	State normal school.	...do...	...do...	Two annual school terms.	
State normal-school diploma.	State normal school.	...do...	...do...	Life or term of years.	

There is, in addition, one other type of certificate held by a small proportion of teachers in elementary schools under the supervision of county superintendents—the county permanent certificate, discontinued through the adoption of the new Pennsylvania School Code in 1911. Since the number of teachers holding these certificates is small and since the certificates are valid for life, they will be included with the permanent State certificates.

Inasmuch as the number of teachers holding the college provisional and permanent certificates in the elementary schools in townships and boroughs under county supervision is so small as to be practically negligible, it is also deemed advisable not to consider these types of certificates. Thus it will be the purpose in this study to see the working out in actual practice of the provisional, professional, and permanent certificates, based practically on examination, and State normal-school certificates and diplomas issued as a result of attendance in a State normal school.

[1] Pennsylvania School Laws, and appendix, 1919, Art. XIII, secs. 1301–1324. Updegraff, Harlan. Teachers' Certificates Issued under General State Laws and Regulations, U. S. Bu. of Educ. Bul., 1911, No. 18, p. 96.

CERTIFICATES HELD BY TEACHERS IN ONE-TEACHER SCHOOLS.

The number and proportion of the different types of certificates held by teachers in township districts of 28 counties of the State in the current year 1919–20 will be found in Tables 32 and 33, which represent 5,131 teachers, of whom 4,217 are in one-teacher schools, and the remainder, 914, in schools of two and more than two teachers. These statistics include all the teachers in townships listed on the official directories issued by the counties in the fall of 1919. The county superintendents indicated on these directories the kind of school taught and the certificate held by each teacher working under their supervision.

TABLE 32.—*Number of teachers in elementary one-teacher schools, and two and more than two-teacher schools, according to kind of certificates held, in 28 counties of the State.*

No. of county.	Division A.—One-teacher schools.						Division B.—Schools of two and more than two-teacher schools.					
	Certificates.						Certificates.					
	Provisional.	Professional.	Permanent.	Normal.	College.	Total.	Provisional	Professional.	Permanent.	Normal.	College.	Total.
1	142	41	25	9	2	219	21	14	4	7	.....	46
2	75	41	16	11	.....	143	3	1	3	4	.....	11
3	126	79	4	2	.....	211	8	16	2	3	.....	99
4	73	41	9	2	3	128	34	43	9	15	1	102
5	72	60	10	48	.....	190	7	14	4	14	.....	39
6	73	44	11	45	1	175	11	13	2	40	1	67
7	113	40	9	56	.....	218	13	8	4	13	.....	38
8	131	39	8	1	.....	179	52	22	12	6	.....	92
9	13	24	22	1	.....	60	1	.....	.....	1	.....	2
10	26	12	4	5	1	48	1	6	.....	5	.....	12
11	41	4	20	147	4	216	1	.....	9	14	.....	24
12	26	13	1	9	2	51	.....	.....	.....	.....	.....	.....
13	55	21	22	51	.....	149	3	4	1	7	.....	15
14	72	32	11	8	.....	123	8	1	.....	3	.....	12
15	93	54	12	2	.....	161	5	5	4	3	.....	17
16	35	16	8	10	.....	69	2	1	.....	1	.....	4
17	183	64	45	67	.....	359	18	14	14	14	.....	60
18	31	18	2	3	.....	54	3	3	1	1	.....	8
19	53	26	13	15	.....	107	.....	.....	.....	.....	.....	.....
20	62	25	19	16	.....	122	3	2	.....	5	1	11
21	60	22	10	9	.....	101	5	.....	7	2	.....	14
22	62	42	10	29	.....	143	14	15	3	13	.....	45
23	169	60	8	4	.....	241	26	20	1	4	1	52
24	24	13	6	3	1	47	5	13	5	1	.....	24
25	71	20	26	1	.....	118	4	.....	8	.....	.....	12
26	57	35	7	8	.....	107	10	18	12	39	1	80
27	72	39	11	18	.....	140	13	10	4	10	.....	37
28	176	56	80	26	.....	338	22	14	20	5	.....	61
Total	2,186	981	429	606	14	4,217	293	257	129	230	5	914
Range	13–183	4–79	1–80	1–147	.....	47–359	0–52	0–43	0–20	0–40	.....	0–102
First quartile	41	20	8	3	.....	101	3	1	1	2	.....	12
Median	71	35	10	9	.....	140	7	8	4	5	.....	24
Third quartile	93	42	19	26	.....	190	13	14	7	13	.....	46
Quartile deviation	26	11	6	12	.....	45	5	7	3	6	.....	12

TABLE 33.—*Percentage of teachers in elementary one-teacher schools, and two and more than two-teacher schools, according to kind of certificates held, in 28 counties of the State.*

No. of county.	Division A.—One-teacher schools.				Division B.—Two and more than two-teacher schools.			
	Certificates.				Certificates.			
	Provisional.	Professional.	Permanent.	Normal.	Provisional.	Professional.	Permanent.	Normal.
1[1]	65	19	11.0	4.0	45	31	9	15
2	52	29	11.0	8.0	27	9.1	27	36
3	60	37	2.0	.9	27	55	7	10
4[1]	57	32	7.0	1.5	34	42	8	15
5	38	31	5.2	25.0	18	36	10	36
6[1]	42	25	6.0	26.0	16	20	3	60
7	52	18	4.1	25.6	34	21	10	34
8	73	22	4.4	.5	56	24	14	6
9	22	40	36.0	1.6	50	.....	.....	50
10[1]	54	25	9.0	10.4	8	50	.....	42
11[1]	19	2	9.2	68.0	4	.....	38	58
12[1]	51	25	1.9	18.0	.....	.....	.....	.....
13	37	14	15.0	34.2	20	26	6.6	47
14	58	26	9.0	7.0	66	8	.....	25
15	58	33	7.4	1.2	29	29	24	18
16	51	23	11.0	15.0	50	25	.....	25
17	51	18	13.0	18.0	30	23	23	23
18	57	33	3.7	5.5	38	38	12	12
19	50	24	12.0	14.0	.....	.....	.....	.....
20	51	20	16.0	13.0	27	18	.....	45
21	60	22	10.0	8.9	35	.....	50	14
22	43	30	7.0	20.0	31	33	7	29
23	70	25	3.3	1.6	50	39	2	7.6
24[1]	51	28	13.0	6.3	21	54	20	4.1
25	60	17	22.0	.9	33	.....	67	.....
26	53	33	6.5	7.4	13	23	15	49
27	51	28	8.0	13.0	35	27	11	27
28	52	16	24.0	7.6	36	23	33	8
Total per cent.	52	24	10.0	14.0	32	29	14	25
Range	19–73	2–40	1.9–36	0.5–68	4–66	0–55	0–67	0–60
First quartile	50	19	5	1.6	20	18	2	10
Median	52	25	9	8	30	25	10	25
Third quartile	57	30	12	18	36	36	20	36
Quartile deviation	5.3	5.5	3.5	8.2	8	9	9	8

[1] College certificate teachers in Table 32 not included.

From these tables it will be observed that 2,186 of the 4,217 teachers in the one-teacher schools hold provisional certificates; in other words, 52 per cent hold the lowest possible type of certificate in order to qualify as a teacher in the public schools of Pennsylvania. The number holding the professional or second kind of certificate is 981, or 24 per cent of the total number. Thus, 3,167, or 76 per cent of the entire number, hold certificates obtained through examinations given exclusively by county superintendents, while 24 per cent hold permanent State certificates and normal school certificates or diplomas. But only 606, or 14 per cent of the entire group, hold normal school certificates and diplomas. If, however, county 11, which has an unusually large number of normal school graduates, were eliminated, the remaining 27 counties would have but 459 out of 4,001, or 11.5 per cent normal school graduates in their one-teacher rural schools.

Assuming that the proportion of normal school graduates in these counties is typical of the State as a whole, it will be seen that on the basis of 14 per cent for the 28 counties there would be approximately 1,400 normal school graduates among the 10,000 teachers in one-teacher schools throughout the whole State. However, if the average for the 27 counties, 11.5 per cent, is taken as a basis, there would be approximately 1,150 normal school graduates teaching in these counties. Since, according to the annual report of the State superintendent of public instruction for 1918, there were 7,404 normal school graduates teaching in the 23,800 schools under county supervi-

sion,[2] there are approximately 6,000 normal school graduates teaching in the 13,800 county schools other than one-teacher schools.

When one considers that the number of one-teacher rural schools constitutes nearly one-half of the entire number of teachers under county supervision, a striking contrast

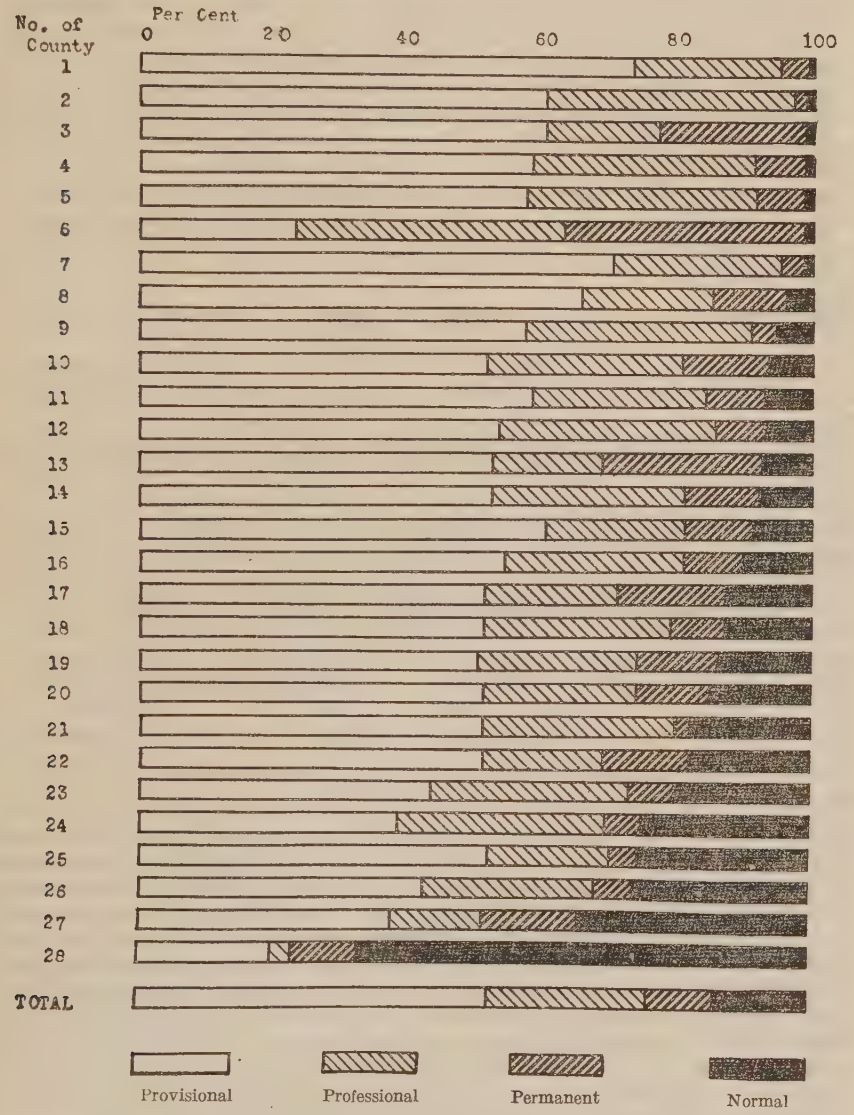

DIAGRAM 3.—Percentage of teachers holding different kinds of certificates in elementary one-teacher rural schools in 28 counties of the State.

is found between this one-teacher group, with only 14 per cent normal school graduates, and the two and more than two teacher group, with approximately 44 per cent of the teachers with normal school training. This demonstrates a most inequitable distribution of normal school trained teachers among the schools under county super-

[2] Rep. State Supt. Pub. Instruction, 1918, pp. 610–11.

vision. It would seem that if a more equitable distribution of trained teachers were established throughout the counties, greater impetus would be given toward solving the problem of raising the standard of the one-teacher rural schools in the State.

Again, it is equally striking that 52 per cent of the teachers in one-teacher schools in the 28 counties considered hold provisional certificates, which when interpreted for the entire State means that approximately 5,200 teachers in the one-teacher rural schools hold this certificate. In the report above referred to, issued by the State department of public instruction, it will be found that 7,033 teachers out of the 23,800 under county supervision held provisional certificates in 1918. Consequently the remaining 1,800 certificates must be held by approximately 13 per cent of the 13,800 teachers in schools other than one-teacher school under county supervision. This second comparison of the percentage holding provisional certificates between the two groups of teachers emphasizes just as strongly as in the case of the normal school graduates the very unfortunate inequitable distribution of teachers holding different types of certificates.

CERTIFICATES HELD BY TEACHERS IN SCHOOLS OF TWO AND MORE THAN TWO TEACHERS.

It may be seen at a glance, in Division B of Tables 32 and 33, from the number and kinds of certificates, that a larger proportion of the teachers in this class of schools are better trained than those in the one-teacher schools. For example, 293 out of the 914 teachers hold provisional certificates, which is only 32 per cent of the whole number, as compared with 52 per cent in the one-teacher schools. On the other hand, 25 per cent hold normal-school certificates and diplomas as compared with 14 per cent in the one-teacher group. The number of teachers holding professional and permanent certificates is also proportionately higher than in the one-teacher schools, although the difference is not so marked. The main fact in all of this is that the percentage of teachers holding higher certificates, thus indicating better preparation and training, is appreciably higher among the teachers in schools of two and more than two teachers than in the case of the teachers in the one-teacher schools in the same counties.

CERTIFICATES HELD BY TEACHERS IN BOROUGH ELEMENTARY SCHOOLS.

Since the writer had the information giving the kind of certificates held by the teachers in the borough elementary schools under supervision of the county superintendents in the same counties, it was found interesting to see how the certification of these teachers compares with that in the township schools previously discussed. The number of teachers holding professional and permanent certificates is practically the same as in the case of the one-teacher schools and of the schools of two and more than two teachers in townships, namely, 21 per cent professional and 15 per cent permanent. It was also found, as might be expected, that the per cent of normal school graduates teaching in boroughs is 58 per cent, or 44 per cent higher than that in the one-teacher schools, while conversely the per cent of provisional certificate teachers in the boroughs is only 6 per cent, or 46 per cent lower than that in the one-teacher schools.

These facts emphasize all the more strongly the unequal distribution of kinds of certificates among county teachers, implying unequal academic and professional preparation in the different types of schools under county supervision. They help to substantiate the evidence found elsewhere in this study that teachers with the higher grades of certificates either migrate voluntarily to the village schools of two and more than two teachers and the borough schools, or are frequently transferred arbitrarily by school boards to the first type of schools just named in the same townships. These vacancies thus caused in the one-teacher schools are, as the facts indicate,

usually filled by teachers holding provisional certificates. The fact is already established that the ungraded one-teacher rural school is usually taught by one with inadequate academic preparation and practically no professional training or teaching experience.

In Chapter II were presented the facts relating to the limiting conditions affecting the work of the rural teachers in one-teacher schools. Clearly they were of the most disadvantageous type. Naturally teachers avoid these schools if possible, and those in charge apparently are not willing to pay more to secure teachers for these more difficult positions. Hence our rural schools are being filled with the least competent among the entire teaching force.

ANALYSIS OF THE PRACTICE OF CERTIFICATION BY COUNTIES.

Turning now to the individual counties, it will be observed in Table 32, Division A, that the variation is most pronounced both among the kinds of certificates held by

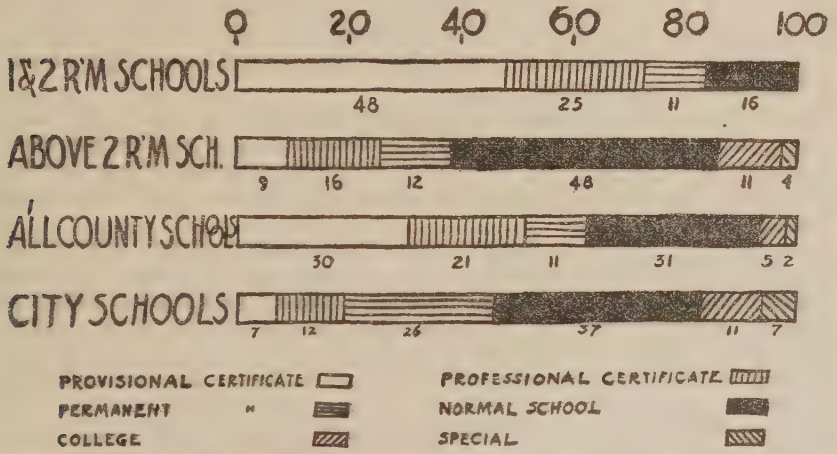

DIAGRAM 4.—Percentage of teachers holding various kinds of certificates in different types of schools in Pennsylvania.

the teachers of the same county and also among the separate counties. For example, in counties 1, 7, and 11 there are practically the same number of one-teacher schools, averaging 218 under county supervision. However, county 1 has 142 teachers holding provisional certificates, county 7 has 113, and county 11 has 41. At the same time county 1 has 9 normal-school graduates, county 7 has 56, and county 11 has 147. In the case of the professional certificates, county 11 has only 4 teachers holding this class of certificate, while counties 1 and 7 have 41 and 40, respectively.

Another very interesting comparison can be made among counties 6, 8, and 15, having approximately 170 one-teacher schools in the open country. County 6 has 45 teachers holding normal-school certificates or diplomas, while counties 8 and 15 show the astonishing record of having only 1 and 2 normal-school graduates respectively. In contrast with these figures, county 6 has 73 teachers with provisionsl certificates, while counties 8 and 15 with practically no normal school trained teachers, as was just pointed out, have 131 and 93 provisional certificate teachers, respectively.

Counties 17 and 28 each with over 300 one-teacher schools—the largest number of one-teacher schools among all the counties in the State—do not differ greatly in the number of teachers holding provisional and professional certificates. However, in the case of the normal-school certificates and diplomas, the former county has 67, while the latter has only 26, meaning that the first county has approximately three times as

many normal-school trained teachers as the second. The number of permanent certificates held by the teachers in these two counties also varies considerably, in that county 28, with 80, has nearly twice as many as county 17, with 45. Table 33 also gives the percentages of each kind of certificates by counties. In examining the fourth column of Division A, which gives the per cent of teachers holding normal-school certificates and diplomas in one-teacher schools, it can be seen that the range in per cent extends from 0.5 to 68 per cent, or expressed in numbers (Table 32) the range would be from 1 normal school graduate in one county to 147 in another county. However, the percentage of teachers holding normal-school certificates and diplomas in the 14 counties representing the middle 50 per cent of the group range from 1.6 to 18, with a quartile deviation of 8.2 per cent, indicative of a wide variation of per cent in the total distribution. These figures are really quite alarming when it is considered that 7 of these 28 counties have less than 2 per cent normal-school graduates teaching in the one-teacher rural schools.

In the case of the provisional certificates, the per cents range from 19 to 73; the middle 50 per cent of the counties extend from 50 to 57 per cent, indicating a quartile deviation of 5.3 per cent, an unusually close grouping about the median, 52 per cent, thus showing less variation in the total distribution than that representing normal-school certificates and diplomas.

There are also differences apparent in the separate counties in regard to the professional and permanent certificates; the former having a range from 1 to 40 per cent, and the latter from 1.9 to 36 per cent. The permanent certificates have the shortest range and the lowest variation in per cents among the four classes of certificates in the various counties.

The group of 26 counties for which we have data on the type of certificates held by the teachers in the schools of two and more than two teachers, according to Division B of Table 33, shows practically as great variation in the different types of certificates among the different counties as that in the case of the one-teacher schools. While the percentage of teachers holding normal school certificates and diplomas, as we have mentioned before in this discussion is 25, or 11 per cent higher than that in the one-teacher school group, yet the range is nearly the same, extending from 0 to 60 per cent. One-half of the difference between the per cent at the first quartile point and that at the third quartile point is 8 per cent, indicating practically the same kind of distribution as in the case of the normal certificates and diplomas in the one-teacher schools, although maintaining the higher level, as expressed in the median and quartile points, at all points on the scale. The median per cent in the case of the provisional certificates is 30, a decrease of 22 points from the median per cent of provisional certificates in the one-teacher schools; and the quartile deviation, which is 8 per cent, also shows a much greater variation in the different counties.

These unusually wide variations in number and per cent of the four kinds of certificates held by the teachers in one-teacher schools of 28 counties of the State this current school year, 1919–20, might be attributed to a number of varying causes. Naturally one of the first questions that might be asked is, which of these counties has one of the 13 State normal schools located within its boundaries or in an adjoining county? County 11 has 68 per cent of its teaching force in the one-teacher schools, normal school graduates, and at the same time has one of the largest normal schools in the State. County 13, with the second highest per cent of normal school graduates, namely, 34.2 is also a normal school county. On the other hand, county 17 has a normal school in its midst, but only 18 per cent of the teachers in one-teacher schools are normal school graduates. While there can not be any question that a normal school located in a particular county makes for a larger number of normal school graduates available for the schools of that county, if for no other reason than the fact that practically every normal school in the State shows by its catalogue that the largest number of students from any one county are residents of the home county, yet the third county

above referred to would certainly give us adequate reason to believe that simply the normal school's location in the county is not the exclusively controlling factor to which should be attributed the high percentage of normal school graduates teaching in a normal school county.

Four of the counties listed in Tables 32 and 33 adjoining normal school counties are 6, 14, 18, and 28, in which there are 26, 7, 5.5, and 7.6 per cent of normal school graduates teaching in the one-teacher schools, a variation which makes it difficult to determine just how far the proximity of a normal school in an adjoining county is a constant factor. On the other hand, counties 5, 7, and 22 do not have a normal school within their boundaries and are not in close proximity to counties having normal schools, but they have the high percentages of 25, 25.6, and 20 per cent normal school graduates in the one-teacher schools, respectively. It is evident that these three counties, at least, are typical of a class on which other influences apart from the location of a State normal school are important factors.

It was found that the counties having the largest number of normal school graduates as a rule have a large proportion of school districts with eight and nine months' school terms, with commensurately higher salaries, caused by the longer term. It would seem that, at least in some counties, the length of school term is another factor in explaining the higher percentage of normal school certificates and diplomas. On the other hand, as will be shown in the chapter on salaries, the very marked tendency on the part of many school districts in some of the counties for paying the lowest minimum salary required by law has a tremendous bearing in accounting for the kind of certificate held by the teachers in such districts. Many school boards hire the teacher with the lowest type of certificate, requiring thereby the lowest minimum salary, in order to keep the teachers' salaries for their particular district as low as possible.

While conditions as previously stated are unquestionably responsible in part for the tremendous variations in number and kinds of certificates frequently found between adjoining counties, nevertheless there is undoubtedly another very important factor, extremely difficult to measure, namely, the influence of the educational leadership in the different counties. While we have no direct evidence to substantiate this point of view, yet by weighing the facts already set forth we believe that we are reasonably safe in saying that the leadership in some of the counties has a tremendous bearing in maintaining high educational standards in regard to certificates, particularly in those counties where educational leadership wields a potent influence with members of the school boards of the different school districts.

CERTIFICATES OVER A THREE-YEAR PERIOD.

Since the data thus far presented on certificates give us information concerning the number and kinds of certificates held by the teachers for the current school year 1919–20, it might be well to see how the certificate situation varies over a period of years. In the accompanying Table 34 will be found the number and kinds of certificates held by the teachers in the one-teacher schools as indicated by the county superintendents in their teachers' directories in five typical counties from different parts of the State for the school years 1917–18, 1918–19, and 1919–20, respectively. At a glance it will be seen that there is a marked variation in some of these counties over the three-year period, especially in the case of the provisional certificates and of the normal school certificates and diplomas. This is probably of all the more interest since during the year 1917 and part of 1918 we were in the World War, causing certain social and economic conditions which in education resulted in a tremendous scarcity of teachers throughout the whole country. Its effect in 1919 would probably be felt all the stronger in the one-teacher schools in the rural districts, in view of the facts and conditions revealed throughout this study.

TABLE 34.—*Distribution of certificates over a period of three years, 1917, 1918, and 1919, in one-teacher schools in five typical counties.*

Counties.	Provisional, in year—			Professional, in year—			Permanent, in year—			Normal certificate and diploma, in year—			Total, in year—		
	1917	1918	1919	1917	1918	1919	1917	1918	1919	1917	1918	1919	1917	1918	1919
No. of county:															
1	87	92	66	71	56	58	8	12	10	49	30	42	215	190	176
2	47	61	73	46	47	44	14	12	11	65	53	45	172	173	173
3	44	50	55	24	22	21	21	22	22	60	55	51	149	149	149
4	149	176	183	74	64	64	48	47	45	95	75	67	366	362	359
5	56	62	59	33	25	25	16	19	19	20	16	17	125	122	120

While differences in the three years are scarcely pronounced enough to support marked conclusions, the several noticeable tendencies should probably be given consideration. In the first place the number of provisional certificates is larger in 1919 than in 1917 in four of the five counties, as shown in the table. It will be readily observed that in county 1 the number of provisional certificates is less in 1919 than in 1917, but by observing the totals at the end of the table it will also be seen that this county has 39 less one-teacher schools in 1919 than in 1917—incidentally the only county in the group that shows a marked falling off of the one-teacher schools over this period of three years—indicating that the proportion of provisional certificates in this county is also practically the same.

In the case of the professional certificates the number in each one of the five counties is less in 1919 than in the previous years. The number of permanent certificates in counties 1, 3, and 5 shows a slight increase in the third year over the first. The most striking information furnished through the statistics is found in the group of teachers holding normal school certificates and diplomas, where in each of the five counties the number is less in 1919 than in 1917. This difference ranges from 3 in county 5 to 28 in county 4, which fact is all the more surprising since the latter county is the one county among the group that has a normal school located within its boundaries.

TEACHERS' CERTIFICATES IN RELATION TO EXPERIENCE.

It will be recalled that one of the main requisites for teachers to qualify for a certificate in Pennsylvania higher than the provisional or first grade certificate is the number of years of experience. In order to see how this works out in practice, the data which the teachers gave through the questionnaires concerning their experience and the type of certificates are arranged in Table 35. The median years of experience for the four kinds of certificates as listed in the above-mentioned table range from 0.9, in the case of the teachers holding provisional certificates, to 15.9, in the case of those holding permanent certificates. Teachers with professional certificates and normal school certificates or diplomas reported practically the same amount of experience, namely, 4.9, and 4.5, respectively.

The very low experience of the teachers holding provisional certificates can readily be explained from the fact that 294 out of the 685 teachers reporting were new teachers without any previous experience. It is also of interest to note that approximately 85 per cent of the group with provisional certificates had less than 2 years' teaching experience. The five-year limit that the new school code has placed on this certificate for possible yearly renewal by examination would automatically tend to keep down the years of experience.[3]

[3] Pa. Sch. Laws, and app., 1919, Art. XIII, sec. 1302.

TABLE 35.—*Distribution of certificates on basis of years of experience.*

Certificates.	Years of experience.																	Total.	Per cent.	Median years of experience.
	0	1	2	3	4	5	6	7	8	9	10–14	15–19	20–24	25–29	30–34	35–39	40–49	50 or over.			
Provisional	294	86	181	68	28	6	8	1	3	...	6	2	...	...	2	...	...	.....	685	47	0.9
Professional	...	...	21	36	53	41	48	27	14	14	41	11	3	1	3	...	2	.....	315	22	4.9
Permanent	...	...	...	...	7	8	9	8	6	9	48	29	16	14	18	11	5	6	194	13	15.9
Normal certificate or diploma	50	29	25	10	24	7	13	7	8	9	26	20	15	3	4	4	...	.....	254	18	4.5
Total	344	115	227	114	112	62	78	43	31	32	121	62	34	18	27	15	7	6	1,448	100	3.3

Since the school laws of Pennsylvania require teachers to have 2 years of successful experience before they can qualify for the professional certificate, the years of experience in this group must necessarily be considerably higher than for those holding provisional certificates. Furthermore, a professional certificate can be renewed three times for a period of three years each.[4] It would seem that under these circumstances the median years, 4.9, for the group holding professional certificates is low, meaning that 50 per cent out of the 315 teachers reporting have had an experience anywhere from 2 years to approximately 5 years. Again, over 70 per cent of the group had 7 or fewer years of experience. These facts would indicate that the 12 years' limitation placed upon the certificate would seem to cause many of these teachers to qualify for the permanent certificate and normal-school certificate or diploma.

The group of teachers holding normal-school diplomas or certificates shows by far the widest distribution of years of experience. The middle 50 per cent of the teachers reported teaching experience extending from 1.5 to 12.6 years, indicating that the upper 25 per cent range in experience approximately from 12.6 to 40 years. Since the average teaching life of a normal-school graduate from the Pennsylvania State normal schools is estimated at $3\frac{1}{3}$ years,[5] it is safe to conclude that the experience of the teachers holding normal-school certificates or diplomas in the one-teacher schools is probably high in comparison with the group of teachers in all types of schools holding normal-school diplomas. In spite of the fact that there is a general tendency for normal-school graduates to try to secure teaching positions in urban communities just as soon as possible after having had a year or two of experience in the rural schools, the bimodel distribution of the teachers holding normal-school diplomas, indicated by 54 per cent having 4 years or less experience and 30 per cent having 10 or more years of experience, would help to bear out the conclusion that normal-school graduates either remain in the one-teacher rural schools for a very limited number of years or continue for an indefinite length of time in this type of school.

CERTIFICATES AND AGE OF TEACHERS.

In the light of the previous discussion concerning the experience of teachers, it might be expected that a somewhat similar relationship exists between the ages of teachers and the kinds of certificates held by this same group of teachers. In Table 36 the median ages range from 20.3 for the teachers holding provisional certificates to 37.3 for those holding a permanent certificate. It will be noticed, too, that in the group holding permanent certificates, 50 per cent of the 194 teachers reporting range from 37 to 60 years or more in age. These facts are especially significant when one considers the very limited amount of academic preparation and professional training that this group of teachers possess.

[4] Pa. Sch. Laws and App., 1919, Art. XIII, sec. 1304, 1306.

[5] Philips, Geo. M. An. Rept. for Normal Schools.

TABLE 36.—*Distribution of certificates on basis of age of teachers.*

Certificate.	Ages of teachers.																Total.	Per cent.	Median ages.
	18	19	20	21	22	23	24–25	26–27	28–29	30–34	35–39	40–44	45–49	50–54	55–59	60 or over.			
Provisional	149	154	128	87	49	30	30	14	8	22	3	5	4	...	...	.....	683	47	20.3
Professional	...	...	22	29	31	48	64	30	27	23	24	7	1	4	1	2	313	22	24.8
Permanent	...	...	...	...	3	9	10	11	13	41	22	20	26	12	16	11	194	13	37.3
Normal certificate or diploma	5	26	37	31	18	12	25	16	12	19	13	15	15	6	4	1	255	18	23.9
Total	154	180	187	147	101	99	129	71	60	105	62	47	46	22	21	14	1,445	100	23.0

ACADEMIC PREPARATION AND PROFESSIONAL TRAINING AS RELATED TO CERTIFICATION.

In Table 37 the number and per cent of teachers having had secondary education are distributed according to the kind of certificates held by the teachers respectively. It will be seen in Division B that the 61 per cent of the teachers reporting as having had secondary education are distributed as follows: Seven per cent, less than 1 year; 4 per cent, 1 year; 11 per cent, 2 years; 17 per cent, 3 years; and 22 per cent completing a four-year high-school course. As their education was considered at length in the preceding chapter, it is the purpose in this discussion to analyze the secondary education as reported by the teachers on the basis of the kinds of certificates held.

TABLE 37.—*Distribution of teachers by certificates on basis of their secondary education.*

DIVISION A.—DISTRIBUTION BY YEARS.

Certificate.	Teachers reporting.	Without secondary education.	With secondary education.	Years of secondary education.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Provisional	678	187	491	43	17	74	139	218
Professional	308	121	187	28	12	41	48	58
Permanent	190	114	76	23	15	10	17	11
Normal certificate or diploma	264	144	120	4	13	32	43	28
Total	1,440	566	874	98	57	157	247	315

DIVISION B.—DISTRIBUTION IN PER CENTS.

Certificate.	Per cent of teachers reporting.	Per cent without secondary education.	Per cent with secondary education.	Secondary education in per cents.				
				Less than one year.	One year.	Two years.	Three years.	Four years.
Provisional	45	28	72	6	3	11	20	32
Professional	25	40	60	9	4	13	15	19
Permanent	12	60	40	12	8	5	9	6
Normal certificate or diploma	18	55	45	2	5	12	16	10
Total per cent	100	39	61	7	4	11	17	22

Among those reporting four years of secondary education, the largest group, or 32 per cent, hold provisional certificates; the second largest group, or 19 per cent, professional certificates; and the smallest group, or 6 per cent, are teachers under permanent certificates. In the case of the teachers having had three years of secondary education, the largest proportion, or 20 per cent, are again found among the provisional-certificate class, while the second largest proportion hold normal-school certificates or diplomas. An interesting fact, however, is that the largest per cent of teachers reporting one year or less, respectively, hold permanent certificates.

In considering these teachers further from the viewpoint of the different types of certificates held and of the proportion without secondary education, it is a rather striking fact that the largest group is found to be those holding permanent certificates, the second largest those with normal-school certificates or diplomas, and the smallest those holding provisional certificates. Of course, it will be maintained that these conclusions should naturally be expected, since teachers holding permanent certificates and normal-school diplomas and certificates are, as a rule, older and have had longer experience, but probably have not had the same opportunity to attend high schools as have the teachers holding provisional certificates and possibly those holding professional certificates, but having fewer years of experience. As a matter of fact, according to the classification of certificates as defined by the State law, the emphasis is placed predominantly upon experience as a requirement for those who wish to obtain the professional and permanent certificates; and thus on account of an examination system of certification not requiring as a prerequisite any definite amount of academic or professional training in a secondary school, normal school, or college, frequently only slight consideration is given to such training. From the data presented it appears that a tremendous argument would be set forth for an immediate revision of the . . . examination route . . . certificate system, since approximately 75 per cent of the 10,038 teachers in one-teacher schools hold certificates issued by 66 different county superintendents with the same possible number of county standards, in favor of one that will give greater credit for actual academic and professional education obtained in accredited schools.

CERTIFICATES OF TEACHERS FROM STANDPOINT OF SUPPLEMENTARY TRAINING DURING SERVICE.

Since the facts presented in the preceding chapter on the educational preparation of these teachers showed that only 5 per cent of the teachers holding provisional, professional, and permanent certificates had attended a normal school in preparation for teaching, apart from those who graduated from one of the Pennsylvania State normal schools, it was found that this small group was fairly equally distributed among those holding the three types of certificates above named. Consequently we shall restrict ourselves in this discussion to the supplementary academic and professional training of rural teachers received during service. By studying the data as shown in Tables 38 and 39, it is evident that only 38 per cent of the number of teachers reporting had received supplementary training during service. These are distributed as follows: Eight per cent in summer academies, 10 per cent in summer local or county normal schools, 12 per cent in summer State normal schools, 6 per cent in summer college courses for teachers, and 2 per cent by correspondence courses and miscellaneous ways.

TABLE 38.—*Distribution of teachers in one-teacher schools, by certificate, on the basis of their supplementary academic and professional training during service.*

Certificate held.	Number reporting.	Receiving no training during service.	Receiving training during service.	Summer academy—					Summer local or county normal school—					Summer State normal school—					Summer college—				Correspondence and miscellaneous.
				Weeks.				Total.	Weeks.				Total.	Weeks.				Total.	Weeks.			Total.	
				6	12	18	24		6	12	18	24		6	12	18	24		6	12	18		
Teachers holding—																							
Provisional certificate	413	283	130	20	15	4	5	44	18	9	2	4	33	28	9	1	2	40	8	2	....	10	3
Professional certificate	253	109	144	13	12	9	6	40	17	11	1	5	34	25	12	7	4	48	14	5	....	19	3
Permanent certificate	220	118	102	8	10	5	2	25	13	9	2	2	26	9	4	9	11	33	9	3	1	13	5
Normal certificate or diploma	199	166	33	....	....	....	....	....	....	....	....	....	....	2	3	1	2	8	13	2	3	18	7
Total	1,085	676	409	41	37	18	13	109	48	29	5	11	93	64	28	18	19	129	44	12	4	60	18
Per cent	100	62	38	....	....	....	....	10	....	....	....	....	8	....	....	....	....	12	....	....	....	6	2

The two factors determining the supplementary training of teachers, as pointed out in the preceding chapter on education, are again present. The second factor, namely, the accessibility of schools, is probably more clearly shown in the previous chapter in the column for the typical counties following the total distribution (Table 29); but the first factor, the kind of certificate held by the teacher, stands out more clearly in Tables 38 and 39, where the training in service can be analyzed for each group of teachers holding the different types of certificates.

TABLE 39.—*Distribution of teachers in one-teacher schools on the basis of teaching experience—Total distribution for 18 counties, followed by 8 typical counties.*

Years of experience.	Total distribution in 18 counties.		Counties.							
	Number.	Per cent.	1	2	3	4	5	6	7	8
0	334	24	16	12	14	10	20	11	13	20
1	120	8	3	2	6	5	5	5	4	7
2	199	14	7	6	12	9	3	15	11	22
3	104	7	1	4	7	3	5	5	7	6
4	112	8	5	1	11	.....	8	11	6	3
5	72	5	2	2	7	1	5	3	1	5
6	78	6	1	.....	10	.....	5	2	4	8
7	46	3	.....	3	2	.....	1	3	3	3
8	31	2	2	.....	4	.....	1	1	.....	4
9	35	2	3	.....	2	.....	1	1	1	6
10–11	52	4	.....	5	15	1	1	5	1	8
12–14	74	5	3	1	10	3	8	8	2	9
15–19	62	4	2	3	5	.....	3	8	1	6
20–24	34	2	1	.....	1	1	4	2	.....	3
25–29	30	2	1	.....	1	.....	3	.....	.....	1
30–34	27	2	3	1	2	.....	3	2	.....	1
35–39	18	1	.....	.....	1	1	1	.....	.....	.....
40–49	12	1	.....	.....	1	.....	.....	.....	.....	2
50 or over	5	.....	.....	1	.....	.....	.....	2	.....	.....
Total	1,445	100	50	41	111	34	76	84	54	114
Median years of experience	3.7	.....	2.9	3.2	5.9	2.2	4.6	4.5	2.9	4.6

The teachers holding normal-school certificates or diplomas have had little training during service, and those among this group who thus reported usually attended a summer college course or obtained additional training in a summer State normal school. In the case of the teachers holding provisional, professional, and permanent certificates, supplementary training is a most vital factor in aiding them to secure the next highest type of certificate, according to the principles followed in the Pennsylvania examination system for securing certificates. It is of interest to note that 18 per cent of these reported such supplementary training in summer academies or local county normal schools. The largest per cent of teachers holding professional certificates attended summer academies and local county normal schools, which is evidence that these teachers elected the schools which were not only most accessible, but which also best afforded them the academic preparation in the subjects listed for the particular certificate for which they were applicants. As the accessibility of schools is so clearly demonstrated in the eight typical counties in the previous chapter, it does not seem necessary to present these counties on the basis of certificates a second time. It is, however, fortunate that such conditions exist, since it probably helps to increase the number of teachers who will avail themselves of additional training in service.

It might not be out of place here to give a bit of the writer's experience in which the opportunity was afforded to interview a number of rural teachers holding provisional, professional, and permanent certificates in Pennsylvania while helping to prepare the schedule of courses of those who attended one of the summer 6-weeks' college courses in the State. In selecting their courses these teachers invariably chose such branches of study as were needed for additional subjects on certificates

in order to qualify them for the next highest certificate. They invariably selected academic subjects—frequently a review of such studies as algebra, general history, and Latin—rather than courses either academic or professional, of more immediate use to their professional work. This was particularly unfortunate, as this college specialized in courses in rural sociology, home economics, and agricultural subjects, affording for teachers coming from rural schools an unusual opportunity to enrich their knowledge and experience in a field of work so greatly needed in rural communities.

From the data presented both in this and in the preceding chapter it seems opportune to emphasize again the great necessity for the changing of the certificate laws so that a greater premium will be put on both academic and professional training in accredited schools. But to do this, additional schools must be provided, especially in the 53 counties that do not have a State normal school to assist in training, both academically and professionally, the large number of new teachers needed each year in the rural schools.

Chapter VI.

EXPERIENCE AND TENURE.

The number of years that teachers in the one-teacher schools remain in service in the rural districts in Pennsylvania varies greatly. In Table 39[1] it will be seen that the experience ranges all the way from the "beginners," or new teachers without any experience, to teachers claiming 55 years of teaching service. The median years of experience of the entire group of 1,445 teachers replying to the questionnaire is 3.7. This teaching service was generally performed in the rural districts, as only 90 teachers, or approximately 6.5 per cent of all the teachers constituting the study, reported having taught previously in borough or city schools. As this group comprises both men and women, it might be of interest to call the reader's attention to Tables 50 and 51 in the discussion on teachers' salaries,[2] where the median years of experience for men is 7 and for women is 3.2, thus showing that there is a tendency for men, although fewer in number, to remain in the service longer than women. It should be remembered, however, that the average years of experience are kept down because of the fact that 334 teachers, or 23 per cent, are teaching for the first year, without any previous experience. By deducting this number from the entire group, the median for the remaining teachers with previous teaching experience is 5.3 years. According to the data in the table, 319, or 22 per cent, had only 1 and 2 years of experience; 216, or 15 per cent, 3 and 4 years of experience; and 262 teachers, or 18 per cent, reported that they had taught for a period of years ranging from 5 to 10 years. The most striking fact is that 314 or, 22 per cent, reported that they had taught in rural districts for 10 or more years.

In the 8 typical counties listed in Table 39, the range of experience varies considerably, as indicated by a median of 2.2 in county 4 and 5.9 in county 3. Comparing these counties from the point of view of the prevailing type of certificates in counties 4, 1, and 7, in which the teachers average low in years of experience, the larger proportion hold provisional and professional certificates; while in county 3, in which the teachers rank high in years of experience, the larger proportion hold permanent and normal-school certificates and diplomas. In this connection it should be recalled from the previous chapter (Table 35) that teachers holding provisional certificates have 0.9 years of experience; those holding professional, 4.9; permanent, 15.9; and those having normal-school certificates and diplomas, 4.5.[3]

Experience, however, as discussed in this chapter, implies very little supervision. This can be clearly inferred from the large number of one-teacher schools in many of the counties with the supervision of only 1, 2, and possibly 3 superintendents, and again from the very little time that these superintendents can spend in the rural schools as reported by the teachers themselves in Chapter III. The median, 3.7 years for teachers with experience in one-teacher rural schools, ranks considerably higher in Pennsylvania than in certain other States for which we have data. For example, the median number of terms taught by all teachers in rural schools of Nebraska is 1.85.[4] For the entire State of Colorado in 1917 the teachers averaged 3

[1] See p. 5.
[2] See p. 73.
[3] See p. 47.
[4] Rural Teachers of Nebraska, U. S. Bu. of Ed., Bul., 1919, No. 20, p. 40.

years of experience.[5] An analysis of reports from the State of North Dakota showed in 1916 an average length of service for rural teachers of 2 years.[6] The average teaching life of rural teachers in 1918 in South Dakota was 3.76.[7] The recent Virginia survey shows that in 1918–19, the median number of years of experience for white teachers was 1.4.[8] The average experience of the teachers in one-teacher schools in New York State in 1919 was 6.7 years, a considerably higher average than that of Pennsylvania.[9] Experience for the rural teachers for the United States as a whole is slightly over three years.[10]

STABILITY OF THE TEACHING FORCE.

Table 40 shows the number of different schools in which the teachers represented in Table 39 who have had one or more years of experience have taught. The median number of schools taught by the 1,050 teachers reporting is 3. The total distribution shows that 530, or slightly more than one-half the whole number, have taught in 3 or more schools; 234 teachers, or 22 per cent, taught in from 5 to 12 different schools; and 24, or slightly over 2 per cent, of the teachers claim that they have held positions in 12 to 20 different schools. This variation, shown for the group as a whole, is also evident in the 8 typical counties, in which the median number of schools taught ranges from 2.4 to 3.7, respectively. These facts seem to show a most perplexing situation, both for superintendents and teachers in that the tenure of such a high percentage of teachers is so uncertain.

TABLE 40.—*Distribution of teachers on basis of number of different schools taught for 18 counties, followed by 8 typical counties.*

Places taught.	Total distribution in 18 counties.		Counties.							
	Number.	Per cent.	1	2	3	4	5	6	7	8
1	230	22	6	12	19	9	7	8	10	19
2	290	28	9	14	22	27	14	10	14	24
3	153	15	3	7	23	6	14	4	7	12
4	119	12	3	4	8	7	6	3	6	12
5	83	8	6	1	4	7	6	3	1	7
6	60	6	2	.....	4	3	4	3	1	8
7	31	3	3	1	.....	2	1	.....	.....	6
8	29	3	.....	.....	5	6	1	.....	1	2
9	13	1	1	.....	1	1	2	3	.....	1
10–11	18	1	.....	1	3	1	2	.....	.....	3
12–13	12	1	1	.....	.....	1	2	.....	.....	1
14–15	5	.....	.....	.....	.....	2	1	.....	.....	1
16–17	3	.....	.....	.....	.....	.....	.....	1	.....	1
18–19	2	.....	.....	.....	.....	.....	1	.....	.....	1
20	2	.....	.....	.....	.....	.....	.....	.....	.....	1
Total	1,050	100	34	40	89	72	62	35	40	99
Median number of places	3.0	.....	3.6	2.4	3.2	3.0	3.7	3.0	2.7	3.6

The relationship between the number of years of experience and the number of different schools taught can probably be more clearly analyzed by studying the following Table 41. The instability, and in many instances uncertain tenure, can be very plainly shown by observing the group of 64 teachers with five years' teaching experience, of whom 28 have taught in 1 school, 18 in 2 schools, 24 in 3 schools, 11 in 4 schools, and 3 in 5 different schools. Among those having had 10 years' experience,

[5] The Administration and Support of the Colo. Sch. System, U. S. Bu. of Ed., Bul., 1917, No. 5, p. 74.
[6] Monahan, A. C., and Cook, K. M., Survey of Wyoming, U. S. Bu. of Ed., Bul., 1916, No. 29, p. 52.
[7] Educ. System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 210.
[8] Va. Pub. Sch. Survey, pp. 136 and 333.
[9] Engelhardt. The Teaching Profession in the State of New York.
[10] The Administration and Support of the Colo. Sch. System. Bu. of Educ. Bul., 1917.

it will be seen that only 2 have taught in 1 school, 5 in 2 schools, 5 in 3, 8 in 4, 3 in 5, 2 in 6, and 1 in 7, 8, and 9 different schools.

The median number of schools taught for the entire group is 3, and the median years of experience is 7.5. This higher median is accounted for by the fact that this group does not include the large proportion of teachers without any previous experience. By drawing lines through these medians, 7.5 and 3, it will be observed that a very large majority of the cases are found in the quadrant 1 to 6 years of experience and 1 to 3 schools taught, and likewise 6 to 40 or more years of experience and 3 to 20 different schools taught, also indicating that the number of places taught by these teachers increases in direct proportion to the number of years of experience. The coefficient of correlation for the entire group was found to be very high, r=.79 P.E.=±.0078. (Pearson's Product-Moment Method.)

TABLE 41.—*Relation of number of years of experience to number of different schools taught.*

Experience.	Different schools taught.															Total.
	1	2	3	4	5	6	7	8	9	10–11	12–13	14–15	16–17	18–19	20	
1	100															100
2	82	102														184
3	31	37	25													93
4	16	50	25	8												99
5	28	18	24	11	3											64
6	8	17	18	10	8	1										62
7	8	8	11	14	6		1									48
8		9	10	12	6	1										38
9		7	6	8	7	1	1		1							31
10	2	5	5	8	3	2	1	1	1							28
11		6	5	3	5	1	1	1								22
12–14		10	10	13	13	8	8	4	1	1						68
15–17		2	9	8	10	4	6	5	2	1						47
18–20		2	4	5	5	5	4	3	2	4	1					35
21–23			1	6	6	1	1	1	2	3	1	1				23
24–26				2	1	5		5	2	5	3					23
27–29			2	4	3	1	1	3	3				2			19
30–34			1	2	7	2	2	5	5	5	3	1	1		2	36
35–39			2	4	1		3	1		1	1	1	2			16
40 or above			1	2	2			2	1	1	2	1	1	1		14
Total	275	273	159	120	66	32	29	31	20	21	11	4	6	1	2	1,050

r=.79 P.E.=±.0078.

This unusual instability of the teaching force among the rural teachers can probably be accounted for largely by the practice of many school boards in school districts in rural communities transferring teachers freely from one school to another. Several county superintendents consulted on this point said that some school boards in their counties believe that a teacher should be transferred at least at the end of two years, and that by so doing not only will the efficiency of the teacher be increased, but the school will be greatly benefited by securing the "new" teacher. Then, again, the size of the school and the difficulty in management as viewed by the directors are factors which influence the transferring of teachers. It might be pointed out that Table 43 in this same chapter shows that 37 per cent of the teachers in the one-teacher schools during this current year 1919–20, are experienced but are teaching in new positions, which data evidence all the more strongly the practices indicated throughout this discussion.

STABILITY OF TEACHING FORCE OVER A THREE-YEAR PERIOD.

The very great difficulty that superintendents experience in administering their schools from the standpoint of the instability of the teaching force is again well exemplified in Table 42. These data were obtained from the directories covering a period

of three years, issued by the county superintendents for the school years 1917, 1918, and 1919 from six different counties, typical of all sections of the State. In tracing a one-teacher school for a period of three years it was found (Division B) that only 15 per cent of the teachers in the one-teacher schools taught the same school during this length of time. Forty-four per cent of these schools had one teacher for two years and one teacher for one year. The astonishing fact revealed by the data is that 41 per cent of the one-teacher schools in these six counties, including every school, were taught by three different teachers during this period of three years.

The second part of this table gives the information concerning the two-teacher schools of the same counties. While a similar tendency seems to exist in these schools, we are glad to know that 31 per cent of these schools have had one teacher for a period of three years, and that only 26 per cent have been taught by three different teachers.

TABLE 42.—*Number of different teachers in one-teacher schools and two-teacher schools, over a period of three years, 1917, 1918, and 1919, in six typical counties.*

DIVISION A—DISTRIBUTION BY YEARS.

No. of county.	One-teacher schools.				Two-teacher schools.			
	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.
1	57	69	38	164	17	21	12	50
2	55	58	14	127	4	6	4	14
3	108	155	54	317	23	54	41	118
4	63	57	4	124	1	5	2	8
5	11	25	3	39	7	8	5	20
6	152	123	50	325	15	20	17	52
Total	446	487	163	1,096	67	114	81	262

DIVISION B—DISTRIBUTION IN PER CENTS.

No. of county.	One-teacher schools.				Two-teacher schools.			
	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.	Three different teachers.	One teacher two years and one teacher one year.	One teacher three years.	Total.
1	35	42	23	100	34	42	24	100
2	43	46	11	100	29	42	29	100
3	34	49	17	100	20	45	35	100
4	51	46	3	100	13	62	25	100
5	28	64	8	100	35	40	25	100
6	47	38	15	100	29	38	33	100
Total per cent	41	44	15	100	26	43	31	100

Considerable variation, particularly in the case of the teachers in the one-teacher schools, will be observed in comparing the six counties. For instance, in county 1, Division B, the records show that 23 per cent of the one-teacher schools had the same teacher for three years, and 35 per cent of the schools had three different teachers. On the other hand, in county 4 only 3 per cent of the one-teacher schools have had the same teacher, and 51 per cent have had three teachers; or, expressed in numbers, as shown in Division A, four of the schools out of the 124 had the same teacher over a period of three years, and 63 schools had three different teachers. It should

be noted, however, that in county 4 a large proportion of the school districts have seven months school terms, a great many of the teachers hold provisional certificates, and the school boards as a rule pay their teachers the minimum salary. On the other hand, county 1 has a large number of school districts with eight months terms, and the teachers for the most part hold professional and permanent certificates and normal-school diplomas. County 3, with a State normal school located within its boundaries, represents what might be termed the average for the group, in that 17 per cent of the schools report one teacher for the three-year period and 34 per cent three different teachers.

If these conditions, such as were found to exist in the six counties which we have just discussed, obtain over the entire State of Pennsylvania it would mean that among the 10,038 one-teacher schools there have been during the past three years, 1917, 1918, and 1919, approximately—

4,100 schools with 3 different teachers.
4,400 schools with 1 teacher 2 years and 1 teacher 1 year.
1,500 schools with 1 teacher over the 3-year period.

10,000

These facts should help to bring forcibly before the school authorities of the State the tremendous problem of teacher tenure or instability of the teaching force that county superintendents are constantly obliged to face. This study, as previously stated, will not discuss causes and possible remedies, but it does clearly point out the fact that something must speedily be done to solve this most unfortunate condition in the rural schools.

NEW TEACHERS WITHOUT EXPERIENCE AND EXPERIENCED TEACHERS IN NEW POSITIONS.

The county superintendents of 18 counties from all sections of the State indicated in their directories of teachers for the present school year, 1919–20, those teachers, both in the one-teacher and two-teacher schools, who are new, that is, without any experience, and those in a new position although experienced. These data are tabulated in Table 43, Division A, showing that 780, or 30 per cent, of the teachers in the one-teacher schools of these 18 counties totaling 2,640 are "beginners," without any previous experience, and that 977, or 37 per cent, of the teachers in the one-teacher schools, while experienced, are teaching in a new position. This means that 67 per cent of the one-teacher schools of these counties have a different teacher this year from last.

In Division B of this same table the data are reported for the teachers in the two-teacher schools in 14 of these counties. These data are also obtained through the directories as furnished by the county superintendents. Of the 606 teachers in two-teacher schools, 71, or 12 per cent, are new teachers without any previous experience, and 197, or 33 per cent, of the 606 teachers, although experienced teachers, are in a new position. Since these two-teacher schools are located in the same counties as the one-teacher schools, it is interesting to note the marked difference between the one-teacher and two-teacher schools in regard to the percentage of new teachers without any previous experience.

TABLE 43.—*Number and per cent of new teachers without experience and with experience in a new position in one-teacher schools and two-teacher schools in 18 counties.*

DIVISION A.—ONE-TEACHER SCHOOLS.

No. of county.	One-teacher schools.	New teachers without experience.	Teachers with experience in new position.	Per cent of new teachers without experience.	Per cent of teachers with experience in new position.
1	223	61	100	23	45
2	223	55	80	24	36
3	219	53	113	24	51
4	189	68	70	36	37
5	128	33	51	25	40
6	222	59	91	26	41
7	170	112	52	66	31
8	22	5	12	23	54
9	55	20	19	36	35
10	225	47	67	21	30
11	155	26	50	17	32
12	128	50	59	38	46
13	96	20	39	20	41
14	132	50	37	38	28
15	108	31	15	29	14
16	155	48	60	31	39
17	72	15	19	21	26
18	118	27	53	23	45
Total	2,640	780	977	30	37

DIVISION B—TWO-TEACHER SCHOOLS.

No. of county.	Two-teacher schools.	New teachers without experience.	Teachers with experience in new position.	Per cent of new teachers without experience.	Per cent of teachers with experience in new position.
1	38	5	28	13	74
2					
3	40	1	26	3	65
4					
5	60	7	18	12	30
6	60	4	21	7	35
7	110	24	40	22	36
8					
9					
10	68	6	10	9	14
11	24	1	8	4	33
12	28	1	6	4	21
13	6	2	4	33	67
14	52	8	14	15	27
15	12	3		25	
16	88	2	11	2	13
17	4	1	1	25	25
18	16	6	10	37	63
Total	606	71	197	12	33

The variation among the different counties is quite marked, as indicated in the table, since the range in per cent of new teachers without experience in the one-teacher schools extends from 17 in county 11 to 66 in county 7, and in the case of experienced teachers in a new position from 14 in county 15 to 54 per cent in county 8. In the two-teacher schools the variation in per cents is practically as pronounced, namely, 2 in county 16 to 37 in county 18 in the case of the new teachers without experience, and 13 in county 16 to 67 in county 13 of the teachers with experience in a new position. While some of these counties show some extreme per cents, the large proportion center about the average per cents for the combined group found at the foot of each column, respectively, of Table 43.

If the percentages as found in these 18 typical counties hold true for the State as a whole, it would mean that among the 10,038 teachers in one-teacher schools, approximately—

3,000, or 30 per cent, are new teachers without previous experience;
3,700, or 37 per cent, are experienced teachers in a new position;
3,300, or 33 per cent, are teachers in the same position as last year.

10,000, total.

In comparing the per cent of new teachers in Pennsylvania this year with the available data from other States, it appears that in Alabama in 1918 there were "17.6 per cent rural and village teachers in their first year," [11] in South Dakota "31.2 per cent of the rural teachers are teaching their first school," [7] in Virginia in 1918–19 "35.9 per cent white teachers in one-teacher schools had no experience," [12] and in New York "17 per cent of the teachers were on their first year's experience in 1918–19." [9]

According to an unpublished investigation made by the bureau of certification and training of teachers in the State department of public instruction this number of 3,000 new teachers without any previous experience in one-teacher schools is approximately one-half of the entire number of the new teachers under county supervision.[13] The figures as shown by the report are 5,162 "new teachers." However, as eight of the counties of the State are not included in the report, if the same percentage of new teachers should obtain in these missing counties, it would mean that for this year, 1919–20, there are according to this State report approximately 6,200 "new teachers" among the entire number of 23,807 teachers under county supervision. This number of new teachers is considerably higher than the number of new teachers in 1917–18 given in the annual report issued by the State superintendent of public instruction in 1918, in which it is reported that 4,044 teachers under county supervision had no previous experience.[14]

According to a study made in Pennsylvania in 1917 there were 4,697 new teachers needed in the schools under county supervision, of whom 2,876 were needed in the rural schools.[15]

In the light of these facts it is evident that the demand for new teachers has greatly increased during the past few years. When it is considered that approximately 1,850 prospective teachers were graduated from the Pennsylvania State normal schools in 1919, of whom, according to the normal school principals,[16] approximately 15 per cent, or 275, entered one-teacher rural schools to meet the demand for approximately 3,000 new teachers alone, not to mention the 6,000 needed in all schools under county supervision, some estimate can be formed of the great teacher emergency in Pennsylvania. Many additional training facilities, as well as the enlarged use of those now in existence, must be provided or the schools, if they are to be continued, will be filled necessarily with an inadequate and poorly trained teaching force through lowered standards of admission.

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[11] An Educational Study of Alabama. U. S. Bu. of Educ., Bul., 1919, No. 41, p. 349.
[7] Educ. System of S. Dak. U. S. Bu. of Educ. Bul., 1918, No. 31, p. 210.
[12] Va. Pub. Sch. Survey, p. 333.
[9] Engelhardt. The Teaching Profession in the State of New York.
[13] Unpublished report of the Teacher Shortage by the Bureau of Certification and Training of Teachers, Dept. of Pub. Instruction for Pennsylvania.
[14] Rep. State Supt. Pub. Instruction, Harrisburg, 1918, p. 611.
[15] Harbold, P. M. Proc. Principals of Pa. State Normal Schools, 1917, p. 24.
[16] Replies to a questionnaire sent to State normal-school principals of Pennsylvania.

Chapter VII.

SALARIES.

The salaries received by teachers in the one-teacher schools in Pennsylvania vary greatly, both in respect to those paid to teachers in schools other than one-teacher schools of the same county and in respect to those paid teachers in the same type of schools but in different counties. In addition to the data on salaries secured directly from the teachers of the 18 counties covered by the questionnaire for the year 1917–18, information was obtained from 15 county superintendents regarding the salaries paid to all the teachers under their supervision in 1918–19. These facts have been worked up in the following tables and diagrams. The data taken from the official directories comprising the salaries of all the teachers in the one-teacher schools of the respective counties for the school year 1918–19 are complete and accurate, inasmuch as they are made up from the annual reports submitted to the county superintendents by the secretaries of the school boards of the various school districts. In each case the salary is the total amount received by the teacher during the school year, irrespective of the length of term, which, in Pennsylvania, varies from 7 to 10 months.[1]

ONE-TEACHER SCHOOLS IN TOWNSHIPS.

The salaries of the teachers in the one-teacher schools in the 15 counties represented by 2,368 cases, as shown in Table 44, division A, range from $315 to $800, a difference of $485 between the amounts paid the lowest and highest salaried teachers. The median salary of this group is $411, which means that 1,184 teachers, or half the number, receive less than this amount for the school year. Interpreting this salary by months, it represents an amount equal either to $54 on the basis of the average school year for townships of 7.6 months (Table 46),[2] or to $34.25 on the basis of the calendar year. The middle 50 per cent receive a salary ranging from $383 to $478, with a quartile deviation of $47.50, which fact indicates a close grouping of the salaries about the mid-point.

[1] Since these data on salaries were gathered and tabulated the Pennsylvania Legislature, in June, 1919, passed what is known as the "Woodruff salary bill." Through this measure the salaries of all teachers who received less than $100 per school month were increased 25 per cent in 1919–20, those receiving $100 and not more than $150 were increased 20 per cent, etc. Since this law was interpreted to affect the teaching position, and since practically all the teachers in the rural schools received less than $100 per month in 1918–19, as will be shown in this study, for practical purposes it is therefore safe to add 25 per cent to the amount of salary herein set forth, to determine the salaries paid during the current school year 1919–20. Pa. Sch. Law, and app., 1919, Art. XII, sec. 1210.

[2] See p. 66.

TABLE 44.—*Distribution of salaries of teachers in elementary one-teacher schools, two and more than two-teacher schools, and elementary schools combined in townships of 15 counties in 1918–19.*

DIVISION A—ONE-TEACHER SCHOOLS.

No. of county.	Salaries.																							Total.	Median salaries.
	$300	$325	$350	$375	$400	$425	$450	$475	$500	$525	$550	$575	$600	$625	$650	$675	$700	$725	$750	$775	$800	$850	$900 or more.		
1	5	.....	29	50	50	.....	37	39	.....	9	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	221	$414
2	3	.....	14	44	106	4	63	36	18	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	293	420
3	90	.....	7	58	28	13	.....	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	206	378
4	.....	.....	18	3	15	8	12	40	19	18	2	23	.....	8	3	2	.....	.....	.....	.....	.....	.....	.....	171	494
5	.....	.....	2	1	9	4	2	.....	4	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	425
6	.....	.....	3	2	5	29	12	52	44	20	15	9	2	6	2	3	.....	.....	2	.....	.....	.....	.....	206	500
7	20	2	19	25	28	1	30	20	2	3	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	152	409
8	10	4	20	27	22	.....	22	7	4	.....	1	1	.....	1	.....	.....	3	.....	.....	.....	.....	.....	.....	122	400
9	10	.....	3	9	12	2	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	396
10	.....	.....	.....	.....	7	3	6	48	7	17	9	3	16	8	.....	2	.....	.....	2	.....	.....	.....	.....	128	500
11	3	.....	22	11	5	23	3	3	12	11	4	4	.....	6	.....	.....	5	.....	5	.....	.....	.....	.....	117	444
12	22	.....	25	31	39	.....	4	1	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	126	388
13	45	.....	8	21	40	.....	16	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	132	385
14	20	.....	2	21	7	13	1	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	73	393
15	18	2	61	68	121	6	74	4	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	357	406
Total	246	8	233	371	494	106	282	272	113	84	38	41	19	29	5	7	10	.....	9	.....	1	.....	.....	2,368	411

73438°—22——5

TABLE 44.—*Distribution of salaries of teachers in elementary one-teacher schools, two and more than two-teacher schools, and elementary schools combined in townships of 15 counties in 1918–19*—Continued.

DIVISION B—TWO AND MORE THAN TWO-TEACHER SCHOOLS.

1				17	15		21	23			3						1				2			82	$461
2				3	23	2	35	14	14		16		4											111	490
3	9		7	22	13	4		6		4			1											66	392
4			2	2	4	2	2	9	8	7		13	1	5	5	3	5		1		4			73	577
5				1	2			2	2	1		1	1											10	500
6						5		15	7	11	17	4	10	3	6		2		3					83	556
7							3	2	1				1											7	488
8		1		1	1	3	2	4	38	7	2	7	1	4			1		1				2	75	517
9	3			2	6	3	2	4	2	2	2			1										27	450
10					8		6	19		8	8	10	11	14	9		7		8			6	2	116	599
11			1			3		9	7	18	5	8	11	22	19	6	18	8	15	3	2	5	6	166	649
12	1		2	1	5	1		4		1				3	6	11	5	4	5		6		5	60	699
13			1		1		1	1		1														5	450
14	1				1	2		2																6	438
15			4	11	4		14	2	5		3		3											46	458
Total	14	1	17	60	83	25	86	116	84	60	56	43	44	52	45	20	39	12	33	3	14	11	15	933	519

DIVISION C—TOWNSHIP ELEMENTARY SCHOOLS COMBINED.

Grand total	260	9	250	431	577	131	368	388	197	144	94	84	63	81	50	27	49	12	42	3	15	11	15	3,301	$449

Division A: Range, $315–$800; first quartile $383, median $411, third quartile $478, quartile deviation $47.50; Division B: Range, $315–$1,300; first quartile $460, median $519, third quartile $630, quartile deviation $85; Division C: Range, $315–$1,300; first quartile $393, median $449, third quartile $508, quartile deviation $57.50.

Now, turning from the study of the group of counties as a whole, wide differences in salaries paid in the individual counties are noticeable. The median salaries of 8 different counties are lower than the group median, $411; county 3, with a median of $378, falls as far as $33 below that of the entire group. Its range extends from $315 to $485, this latter amount being only $7 higher than the third quartile (the 75 per cent point) for the entire group. County 13, while having the same low range as county 3, $315–$485, has, however, a better distribution in salaries, evidenced by its median falling on a higher point on the scale, namely, $385.

In contrast with these counties ranking low in salaries as compared with the standards for the group as a whole, is county 10, which has a median salary of $500. The salaries of one-half the teachers of this county are greater by $22, or more than the amount representing the 75 per centile, $478, of the composite group. County 6 likewise has a median salary of $500, which is $122 higher than the mid-point of county

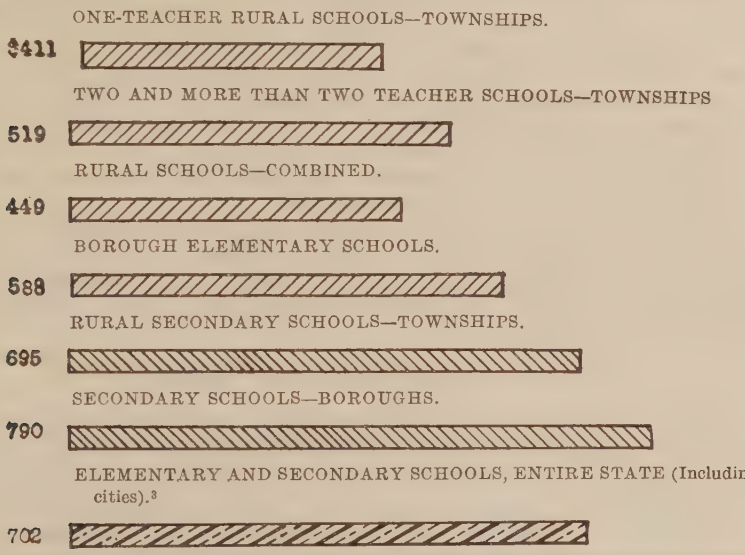

DIAGRAM 5.—Distribution of median salaries of elementary and secondary teachers in 1918–19 in the different types of schools in Pennsylvania.

3, $378, the lowest with respect to salary of all the counties reporting, and $89 higher than the median salary for the entire group, thus indicating an astonishingly wide range in median salaries.

SCHOOLS OF TWO AND MORE THAN TWO TEACHERS IN TOWNSHIPS.

In order to show the true situation concerning the salaries paid teachers in the one-teacher schools in the open country, and to understand more thoroughly the causes for these existing conditions, it seems advisable to look into the salary situation in the schools of two and more than two teachers in townships. Table 44, Division B, indicates the salaries of the 933 teachers in these schools in the same 15 counties used in the previous division. The median salary for these teachers is $519; the range extends from $315 to $1,300; the middle 50 per cent from $460 to $630, with a quartile deviation of $85, which is almost twice as great as the deviation in salaries of teachers in the one-teacher schools, thus indicating a much wider distribution of salaries about the point of central tendency. In comparing the median salaries of the teachers in one-teacher schools, Division A, with the median salaries of those

[3] Statistics of State School Systems, 1917–18, Bonner H. R., U. S. Bu. of Ed., Bul. 1920, No. 11, P. 42.

in two and more than two-teacher schools, Division B, of the same individual counties, it will be observed that the extent of difference in salaries in the two types of schools is most pronounced, ranging from $311 in county 12 to $14 in county 3. The average difference for the entire group of 15 counties is $91.

It should be especially emphasized that the median salary, which for practical purposes is approximately the same as the arithmetical average, is, in the case of the teachers in the schools of two and more than two teachers, $108 higher than that of the one-teacher schools in the same townships of the respective counties. Such conditions exist in spite of the fact that these two types of schools are frequently found in townships controlled by the same board of directors, in whose hands lies the power of determining the amount of salary paid the teachers. Upon investigating some of the individual school districts in these counties, the writer finds that in the same townships teachers in the schools of two and more than two teachers are receiving as high as $20 more monthly salary than teachers with practically the same qualifications and in many cases an equal amount of experience in the one-teacher schools. In other words, teachers are frequently transferred by the school boards from a one-teacher school to a more centralized village school of two or more than two teachers in the same district, not only being paid a larger salary, but in many cases given a janitor besides. These facts may help to explain the difficulties that county superintendents have to face in stabilizing their teaching force, and that school boards in their shortsightedness bring upon themselves in securing teachers to fill the vacancies in these one-teacher schools.

The grand total distribution of the salaries paid the 3,301 teachers, including all schools of the townships for the 15 counties combined, will be found in Division C, Table 44. The median salary for this combined group of township elementary teachers is $449, and the first and third quartiles, $393 and $508, respectively, with a quartile deviation of $57.

BOROUGH ELEMENTARY SCHOOLS.

The data relating to salaries in boroughs help to throw further light on the salary situation of the one-teacher schools. The median salary of the 1,205 borough elementary teachers as found in Table 45 is $588. At a glance one may see that this amount is $139 higher than the median salary ($449) paid to the teachers in the combined group of schools in townships in the same counties, and $177 higher than the median salary ($411) paid to teachers in the one-teacher schools in the open country.

TABLE 45.—*Distribution of salaries of teachers in elementary schools in boroughs of 15 counties, 1918–19.*

No. of county.	$300	$325	$350	$375	$400	$425	$450	$475	$500	$525	$550	$575	$600	$625	$650	$675	$700	$725	$750	$775	$800	$850	$900 or more.	Total.	Median salaries.
1					6	1		2	3	11	4	12	7	14	2	5	2	2	4	1	1	2	2	81	607
2					1			4	3	30	1	49	1	19		10	2	1	1	2				124	587
3	2		2		2			12		24	7	18	1	4										72	544
4								3	2	24	14	14	10	29	7	2	17	4	13	2	1	1	1	144	630
5									2			13				1								16	588
6									5	21	5	32	6	6		4	3		2		2			86	585
7			1		1	3	4	4	27	2	19	14	1	10	1	3	2							92	587
8				1	3	2	1	10	2	12	5	14		21		8	1		1		1			82	584
9									5															5	500
10								7		1	3	14	5	19	8	12	8	2	3	4	2	4	3	95	649
11									6	11		19	6	17	15	19	8	8	6	4	6	4	2	134	659
12	1				1		3		1	18	1	10		12		3	1		1		1	1		84	534
13					3	2	14	19	11	2	2	5	4	2		1								39	518
14							2	5		11		3		5										24	542
15	1		1	3	5	3	1	4																127	549
Total	4		4	4	22	11	2	16	18	16	6	26	4	10	1	14	1								
							27	86	85	183	67	243	45	168	34	82	45	17	31	13	14	12	8	1,205	588

Range $315 to $1,100, first quartile $533, median $588, third quartile $643, quartile deviation $55.

LENGTH OF SCHOOL TERM IN TOWNSHIPS AND BOROUGHS.

The length of the school term is undoubtedly a determining factor in explaining the marked variations in teachers' salaries prevalent in the counties throughout the State. Table 46, Divisions A and B, indicate in months the length of school terms in townships and boroughs of the 15 counties previously discussed in this chapter according to the 1918 report of the State superintendent of public instruction for Pennsylvania.[4] There are 629 school districts in these 15 counties, of which 403, or 64 per cent, are townships and the remaining 226, or 36 per cent, are boroughs. It will be noticed that the average length of term in townships is 7.6 months, while that in the boroughs is 8.6. Fifty-eight per cent, or over half, of the townships have a school term of 7 months, the minimum requirement by law, while only 11 per cent of the boroughs limit their terms to this minimum standard. On the other hand, it is interesting to note that almost the reverse is true in the case of the 9 months' term, namely, 53 per cent in boroughs, and 14 per cent in townships. In the case of the 8 months' term, townships and boroughs show no appreciable difference.

TABLE 46.—*Length of school terms in months in townships and boroughs of 15 counties in 1918.*

DIVISION A—TOWNSHIPS.[1]

Months.	Counties.															Total.	Per cent.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
7	27	32	28	3	3	5	16	17	2	9	8	13	21	13	35	232	58
8	1	9	8	11	3	33	4	3	5	4	12	4	----	6	1	104	26
9	----	----	1	17	----	17	2	2	----	3	14	3	----	----	----	59	14
10	----	----	----	----	----	----	----	----	----	----	7	1	----	----	----	8	2
Total	28	41	37	31	6	55	22	22	7	16	41	21	21	19	36	403	100

DIVISION B.—BOROUGHS.[2]

Months.	Counties.															Total.	Per cent.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
7	2	3	7	----	----	----	1	2	----	----	----	2	3	----	4	24	11
8	8	5	4	1	1	5	6	4	----	1	----	1	4	----	22	62	27
9	6	14	9	16	1	11	4	12	----	6	14	9	2	5	10	120	53
10	----	2	----	5	----	1	----	----	1	3	9	----	----	----	----	20	9
Total	16	24	20	22	2	17	11	18	1	10	23	12	9	5	36	226	100

[1] Arithmetical average of terms, 7.6 months.
[2] Arithmetical average of terms, 8.6 months.

When the practice in individual counties is considered, it is apparent that there is very great variation in the length of school terms among the townships and boroughs. In counties 1 and 13 all the townships have a 7 months' term, with the exception of one township found in county 1, while 20 out of 25 boroughs in these same counties have 8 or 9 months' terms, which facts show that the townships, with 98 per cent maintaining a 7 months' minimum term, in comparison with the boroughs are being very much handicapped educationally by their shorter school terms. On the other hand, counties 6 and 11 have 76 out of 96 township districts with 8 or 9 months' terms, with county 11 having as many as 7 townships maintaining a school term of 10 months.

[4] Rep. Supt. Pub. Instruction, 1918, pp. 372-601.

The practice in these townships, in comparison with the boroughs of the same counties, shows that the length of school term is relatively the same. This practice is a commendable feature in the management of the schools on the part of the school boards of these townships, inasmuch as it affords educational opportunity equal to that offered in the boroughs.

In the light of these facts it will now be seen what bearing the variation in the average length of school term has on the salary paid the teachers in the different types of schools. By considering the average school term for townships as 7.6 months, and the yearly salary as either $411, the median salary for the teachers in one-teacher schools (Table 44, Division A), or $519, the median salary for the teachers in the school

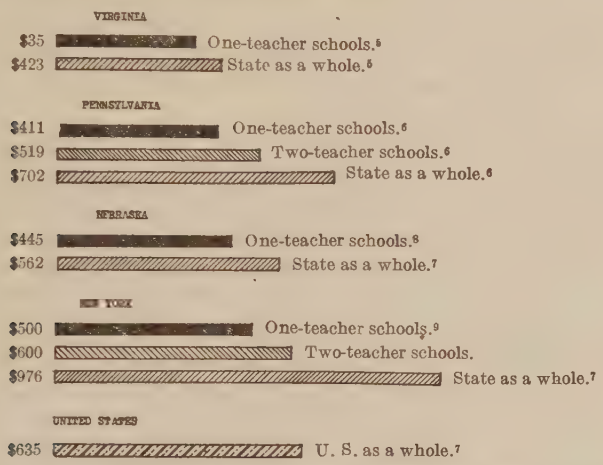

DIAGRAM 6.—Median teachers' salaries in Pennsylvania in one-teacher schools, in two-teacher schools, and in the State as a whole in 1918-19, compared with a typical Eastern, Southern, and Western State and United States.

of two and more than two teachers (Table 44, Division B), it will be found that the average monthly salary is, in the first case, $54, and in the second, $68. Taking the median salary as $449 for the entire group of teachers in townships (Table 44, Division C), and dividing by 7.6, the average number of months in the school term, it shows a monthly salary of $59. However, if we consider 8.6 months the average length of term for boroughs, and the median borough salary as $588 (Table 45), it will be seen that the average monthly salary is $68.

The above facts show that the average monthly salary in boroughs is $9 higher than the average salary received by the combined group of elementary teachers in townships. The average monthly salary for the teachers in schools of two and more than two teachers in townships is $68, exactly the same as the average monthly salary for the boroughs, which means that the higher salaries paid to teachers in boroughs, as compared with the schools of two and more than two teachers in the townships, are due apparently to the longer school term rather than the larger monthly salary.

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[5] Va. Pub. Sch. Survey, pp. 142, 337.

[6] See p. 62.

[7] Bonner, H. R. Statistics of State Sch. Systems, 1917-18, U. S. Bu. of Educ., Bul. 1920, No. 11, p. 114.

[8] The Rural Teacher of Nebraska. U. S. Bu. of Educ., Bul. 1919, No. 20, p 53.

[9] Engelhardt, F. The Teaching Profession in the State of New York.

However, the significant fact in all of this is that the teachers in one-teacher rural schools in these 15 counties receive on an average $14 per school month less than the teachers in the schools of two and more than two teachers in the same townships, have the same length of school term, and are controlled by the same boards of education. There seems to be no logical reason why teachers of practically the same training and experience in one-teacher rural schools should receive less salary than those in schools of two or more than two teachers, and since the facts show that this difference does exist to such an extent as to average $14 per month, not to mention the extreme differences at the upper and lower ends of the range, it certainly does give a tremendous argument in favor of an extra State "bonus" to these teachers. This principle was recognized in the recent Woodruff salary bill providing an extra State bonus of $5 per month to rural teachers, but we can not see any reason why this small amount should be considered at all adequate to meet the situation in Pennsylvania, provided the bonus scheme is decided upon as the best plan to solve this, one of the most difficult phases of the rural school problem.

The evidence so far cited seems to warrant the conclusion that one of the main factors in explaining variations in annual salary in counties is the difference in length of school terms in townships and boroughs. From this pronounced difference between townships and boroughs, and from the added fact that school boards in these townships and boroughs usually pay only the minimum salaries, teachers would naturally be drawn, on economic grounds alone, if on no other, from the rural one-teacher schools to the schools of two and more than two teachers in townships paying higher salaries, and of course to borough elementary schools with the longer school terms.

It is also a noteworthy fact that many boroughs have a small number of teachers, consisting in some of the counties of 1, 2, and 3 teachers, and in two of the counties listed in Table 46 the boroughs have an average of 4 teachers for the entire county. Certainly a situation, for example, in which 9 teachers in a township receive a minimum salary of $45 or $50 per month for a 7 months' term, when in the same township there is located a small borough of 1, 2, or 3 teachers receiving a minimum salary of $55 or $60 with an 8 months' term, to say the least is not conducive to the maintaining of a stable teaching force or the improving of the status of the teacher in the one-teacher schools of such a township.

One might well ask the question whether some form of county local unit of more centralized school control would not help to solve these problems directly affecting the rural teachers, in which the county superintendent and county board of education would have more power in maintaining more uniform salary schedules and a more equitable school term.

SALARY IN RELATION TO CERTIFICATES.

Since it was shown in the previous chapter that the types of certificates held generally by teachers in the one-teacher rural schools in Pennsylvania are provisional, professional, permanent, and State normal certificates or diplomas, we shall now see how salaries in 1918, as reported through the questionnaires, are distributed on this basis. In the accompanying Table 47, the salaries of 1,383 teachers from 18 counties of the State are distributed according to the type of certificates held. Of this total number reporting, 47 per cent hold provisional certificates, 22 per cent professional, 13 per cent permanent, and 18 per cent State normal certificates or diplomas, which percentages correspond quite closely with the percentages of certificates held by the teachers in 28 counties of the State as reported in Chapter V.

TABLE 47.—*Salaries paid to teachers in one-teacher schools according to certificates held.*

Certificates.	$300–$324	$325–$349	$350–$374	$375–$399	$400–$424	$425–$449	$450–$474	$475–$499
Provisional	354	10	80	50	79	39	18	14
Professional	.....	.....	.....	162	38	42	9	24
Permanent	.....	.....	.....	.....	113	6	8	31
Normal certificates and diplomas	.....	.....	.....	36	85	30	19	42
Total	354	10	80	248	315	117	54	111

Certificates.	$500–$524	$525–$549	$550–$574	$575–$599	$600–$649	$650–$700	Total.	Per cent.	Median salaries.
Provisional	2	1	1	.....	.....	.....	648	47	$323
Professional	3	13	5	2	1	.....	299	22	398
Permanent	8	13	5	1	3	1	189	13	421
Normal certificates and diplomas	6	11	9	5	3	1	247	18	427
Total	19	38	20	8	7	2	1,383	100	400

By studying this table one can see that over 50 per cent of the teachers holding provisional certificates receive a salary of $315, the minimum legal salary for a seven-months' school term in 1918.[10] The second largest number in the group holding provisional certificates receive a salary of $360, which amount is the minimum monthly salary of $45 required by law, for an 8 months' term. Practically 75 per cent of the number of teachers who reported holding provisional certificates receive a minimum salary of $45 per month for a 7 or 8 months' school term.

In the case of teachers holding professional and permanent certificates, more than half the number receive $385 and $420, respectively—again the minimum monthly salaries of $55 and $60 required by law for these types of certificates in 1918 for a 7 months' term.[11] It is also noteworthy that the second largest number of teachers in each of these groups receive the minimum salaries for an 8 months' term, $440 and $480, respectively. The quartile deviation of both groups holding professional and permanent certificates is very small, indicating a close distribution about the medians which are the legal minimum salaries.

The range of salaries for teachers holding normal-school certificates or diplomas is very much greater than for those holding provisional, professional, and permanent certificates, namely, $385 to $700; however, the median salary for this group is only $427, just $6 more than the median salary for the teachers holding permanent certificates, and $29 higher than the median for those holding professional certificates. This can probably be explained from the fact that the minimum salary by law in 1918 for a normal-school graduate with less than two years' experience was $55, the same as that paid to a teacher holding a professional certificate, and $60 for a normal-school graduate of two or more years' experience, the same amount received by a teacher holding a permanent certificate.[12] Thus, it can be seen that nearly 60 per cent of the teachers holding normal certificates and diplomas receive the minimum salary of $385 and $420 for a seven months' term, and that 30 per cent of the group receive $440 and $480, the minimum salary, for an eight months' term.

The above facts clearly show that, in the case of each of the four types of certificates, over 50 per cent of the teachers in the one-teacher rural schools receive minimum salaries for a seven months' term, and that approximately 80 per cent of all the teachers reporting receive the minimum amount required by law, either for a seven or an eight months' term. One would naturally expect that a great many teachers holding the lower class of certificates requiring practically no professional training would receive the minimum salary, but to discover that as many as 78 per cent of the teachers professionally trained, holding State normal certificates or diplomas, are receiving the minimum monthly salary of $55 or $60 is startling evidence against the unfortunate

[10] Pa. Schl. Laws, and app., 1919, Art. XII, sec. 1210, part 4.
[11] Ibid.
[12] Sch. Laws of Pa., 1917, Art. XII. sec. 1210.

practice of school boards in their nonrecognition of professional training by their persistence in paying these teachers only the minimum amount required by law. These facts alone show that the minimum-salary law is probably the most potent factor in determining salaries in the rural districts.

The same facts and tendencies prevalent among the combined group of counties which we have just discussed are probably even better illustrated in the accompanying Table 48, showing how salaries are distributed according to certificates in four typical counties. It is not the purpose of the writer to analyze the salaries paid teachers in these counties and the causes for the same, but merely to indicate, by using the four typical counties, the wide variations that exist in the number and kinds of certificates held by the teachers, together with their accompanying salaries. In counties 1 and 2 a large majority of the townships have a minimum school term of seven months, while in counties 3 and 4 more than one-half have eight and nine months' terms (Table 46). The same general practice of paying the minimum salary required by law, previously shown as prevailing among the counties as a whole, is even more apparent in each of these individual counties.

TABLE 48.—*Salaries paid to teachers in one-teacher schools according to certificates held*

(Four typical counties.)

COUNTY 1.

Certificates.	$300–$324.	$325–$349.	$350–$374.	$375–$399.	$400–$424.	$425–$449.	$450–$474.	$475–$499.	$500–$524.	$525–$549.	$550–$574.	$575–$599.	$600–$624.	$625–$649.	Total.
Provisional	47		2	3											52
Professional				26	2										28
Permanent					16										16
Normal certificate or diploma				3	6		1								10
Total	47		2	32	24		1								106

COUNTY 2.

Provisional	36		10	3											49
Professional				30	6		1		1						38
Permanent					19	1		1							21
Normal certificate or diploma				3	5										8
Total	36		10	36	30	1	1	1	1						116

COUNTY 3.

Provisional	30	2	12	5	9	1	1	1	1						62
Professional				20	10	2	3	3		2					40
Permanent					7	5	4	2	2		1				21
Normal certificate or diploma				6	6	4	1	2	1	1	1				22
Total	30	2	12	31	32	12	9	8	4	3	2				145

COUNTY 4.

Provisional	1	2	10	4	2	10	1	3			2				35
Professional						8		6		2		1			17
Permanent								9		2	3		1		15
Normal certificate or diploma				1		13	6	32	7	1	5	2			67
Total	1	2	10	5	2	31	7	50	7	5	10	3	1		134

Teachers from one-teacher rural schools with higher certificates migrate to schools of two and more than two teachers in townships, and to borough elementary schools to get increased salaries, causing vacancies in the rural schools which must be filled by county superintendents issuing temporary provisional certificates to a constantly changing corps of new inexperienced teachers. There are, of course, some rural school districts which provide for a longer school term or fix their salary schedule so that they can attract teachers with better academic and professional training; but these, as the facts indicate, are very much in the minority.

It might be in order to note here that in the questionnaire sent out to the teachers, they were asked to state the salary that they had received the previous year, as well as

the present salary. In tabulating these results it appeared that, whenever salaries were increased, it was generally due to the minimum-salary law which went into effect in 1918, and the amount of increase was usually the minimum $5 or $10 per month increase required by law, depending on the type of certificate held.

BASES ON WHICH SCHOOL BOARDS RAISE SALARIES.

The factors and conditions which are taken into account by school boards as bases in determining increases in salary, according to the replies given by the teachers in the questionnaires, are listed in Table 49. Upon tabulating these different answers and omitting "no basis," fourth on the list, it is found that there are 57 different bases named.

TABLE 49.—*Bases on which school boards increase salaries as given by the teachers—Total distribution, followed by 8 typical counties.*

Bases for increased salaries.	Total 18 counties.	Typical counties.							
		1	2	3	4	5	6	7	8
Minimum salary law	337	40	51	8	26	24	68	13	17
Efficiency	96	6	5	2	10	2	21	1	.....
Experience	91	.....	3	.....	8	4	21	.....	5
No basis	43	1	.....	1	1	1	3	1	1
Certificate	10	.....	1	.....	.....	.....	.....	.....	.....
Legislature (when State raises it)	30	3	1	1	6	.....	.....	.....	.....
Taxation	29	.....	2	.....	1	.....	3	3	11
Do not know	25	.....	1	1	.....	1	4	.....	2
Experience and certificate	19	.....	1	.....	.....	13	2	.....	3
When compelled	18	.....	3	.....	.....	3	2	.....	2
Efficiency and certificate	14	1	2	.....	.....	.....	8	.....	.....
Professional training	13	.....	.....	.....	.....	.....	1	.....	11
Experience and efficiency	12	.....	.....	2	.....	.....	8	.....	1
Salaries are not raised	8	.....	.....	.....	.....	1	.....	2	.....
$5 per month	7	.....	.....	5	.....	.....	.....	.....	.....
Amount of work done	6	.....	.....	.....	.....	.....	5	.....	.....
Change of school	6	.....	.....	.....	5	.....	.....	.....	.....
Education	6	.....	.....	.....	.....	5	.....	.....	.....
State appropriation	6	.....	.....	.....	.....	.....	2	.....	.....
$25 a year	6	.....	1	.....	.....	.....	.....	1	.....
High cost of living—clothing	5	.....	1	1	.....	.....	1	.....	1
$1 per month each year after fifth	5	1	.....	.....	.....	.....	.....	.....	.....
Protest of teachers	5	.....	.....	4	1	.....	.....	.....	.....
Scarcity of teachers	5	1	.....	2	.....	.....	.....	.....	.....
$25 every two years	4	.....	.....	.....	.....	.....	.....	.....	1
After 2 years $5 per month	6	.....	1	.....	.....	.....	1	.....	.....
First year experience, later law	4	.....	.....	.....	.....	1	2	.....	.....
Limit	4	.....	.....	.....	1	.....	.....	.....	.....
Number of pupils	4	.....	.....	.....	.....	.....	.....	1	.....
$25 a year until $65	4	.....	.....	.....	1	.....	.....	.....	.....
War basis	3	.....	2	.....	.....	.....	1	.....	.....
Yearly	3	.....	.....	.....	.....	.....	1	2	.....
Absolute necessity	3	.....	.....	.....	.....	.....	2	.....	.....
After two years	3	.....	.....	1	.....	2	.....	.....	.....
After visiting five schools	3	.....	1	.....	.....	2	.....	.....	.....
After 2 years $10 per month	3	.....	.....	.....	.....	1	.....	.....	.....
After 2 years $25 year until maximum	3	.....	.....	.....	.....	.....	1	.....	.....
Experience (one case favoritism)	3	.....	.....	.....	.....	.....	1	.....	.....
To prevent teachers going to towns	2	.....	.....	.....	.....	.....	1	.....	.....
Whim of directors (by their own ideas)	2	.....	.....	1	.....	1	.....	.....	.....
Because I earned it	2	.....	.....	1	.....	.....	.....	.....	.....
Custom	2	.....	.....	.....	.....	1	.....	.....	.....
Equalization of salaries	2	.....	.....	1	.....	.....	.....	.....	.....
Extra work	2	.....	.....	.....	.....	.....	.....	1	.....
Education and experience	2	.....	.....	.....	1	.....	.....	.....	.....
Income	2	.....	.....	.....	.....	1	.....	.....	.....
If satisfactory, after first year	2	.....	.....	.....	.....	.....	1	.....	.....
Limit $55	2	.....	.....	1	.....	.....	.....	.....	.....
Money in treasury	2	.....	.....	.....	.....	.....	.....	1	.....
Number of pupils and ability	2	.....	.....	.....	.....	1	.....	.....	.....
Personal persuasion	2	.....	.....	1	.....	.....	.....	.....	.....
Raised twice after obtaining professional certificate	1	.....	.....	.....	.....	.....	1	.....	.....
Regulated scale	1	.....	.....	.....	.....	1	.....	.....	.....
State legislature and taxation	1	.....	.....	.....	.....	.....	.....	.....	1
To secure and retain good teachers	1	.....	.....	.....	.....	.....	1	.....	.....
$2.50 per month until 5 years	1	.....	.....	.....	.....	.....	1	.....	.....
Three times in 10 years	1	.....	.....	.....	.....	.....	.....	.....	1
When a teacher less is needed	1	.....	.....	.....	.....	1	.....	.....	.....
Total number of replies	913	53	76	33	61	66	163	26	57

Since the teachers were asked in the questionnaires not to name the district in which they taught, there is no way of telling the number of school boards that are represented in the 913 replies. However, since approximately two-thirds of the teachers in the one-teacher schools in the townships of the 18 counties answered, and since they undoubtedly came from all sections of the counties, we are probably safe in assuming that a large proportion of the school districts of each of the 18 counties is represented. Inasmuch as the average number of township school districts for these counties is 27, it would seem safe to estimate on two-thirds this number or 18, thus giving replies representative of the practice of 224 different school boards throughout the 18 counties.

The data in this table show that 36 per cent of the replies gave as a basis the "minimum salary law," and that approximately 10 per cent additional replies include such as "legislature," "certificate," "when State raises it," etc., making a total of 46 per cent of the replies which refer directly or indirectly to the minimum salary law.

Analyzing further the factors and conditions that school boards consider in increasing salaries, one is surprised to find that "efficiency" and "experience," factors which would naturally be expected to receive more frequent consideration, were each named in only 10 per cent of the replies. A number of the bases were given in combination, such as "experience and certificate," "State legislature and taxation," "experience and efficiency," etc. As a separation of these combinations into their constituent parts would be merely a matter of opinion, it may be well to consider them jointly as listed.

Those who may look for unique replies in data of this kind find them in such expressions as "personal persuasion," "when a teacher less is needed," "$1 per month each year after the fifth," "one case favoritism," "whim of directors," "after visiting five schools," etc.

It is of unusual interest to observe that "professional training" was named only 13 times, "education" 6 times, and the "high cost of living" 4 times. The latter fact is most unusual since the high cost of living has been one of the strongest arguments presented to school boards for increasing salaries.

Approximately 5 per cent of the teachers reported that their boards have no basis for increasing salaries, and 3 per cent admit frankly they "do not know." It should also be remembered that only 65 per cent of all the teachers who filled out the questionnaire answered the question which called for this information. Might this not indicate that a large proportion of teachers have no knowledge of the kind of consideration their school boards give the question of salaries, one of the most important factors in their social, economic, and professional welfare? It is not the purpose to offer these data on increasing salaries as necessarily conclusive evidence; but the material may be of importance from the standpoint of the many different kinds of reasons given, and from the fact that it helps to substantiate the previous conclusions concerning minimum salaries.

The discussion of this table thus far has been based on the distribution of the total number of replies as found in the first column of Table 50. Columns 1, 2, 3, etc., just following the total column, show the distribution of replies in typical counties. It will be observed that there is about the same number of diversified answers in each of these counties, and that the percentages of the more numerous replies are practically the same. There are, of course, some differences, but it is difficult to speak of these in any conclusive way because of the unequal number and proportion of replies in the separate counties.

SALARY OF MEN AND WOMEN TEACHERS.

Tables 50 and 51 show the salaries paid to men and women teachers, respectively. Of the total number reporting, 1,369 teachers, 1,070, or 80 per cent, were women; and 299, or 20 per cent, men, which is practically the same proportion as is found to exist in the 20 counties of the State (Ch. II).[13]

The median salary for men teachers is $406, which is just $6 higher than that for women, namely $400, showing that the average salaries paid men and women teachers

[13] See page 8.

in the one-teacher rural schools on the basis of these replies is practically the same. This is further emphasized by the fact that both in the case of the men and women teachers, the range in salaries extends from $315 to $700. However, the quartile deviation of the salaries received by women teachers is $53, which is twice the quartile deviation of the salaries received by the men, indicating a much greater variation and a wider distribution about the mid-point of the salaries paid women teachers as compared with those paid to men teachers. Let us now look at these tables from the point of view of the relationship existing between the experience of men and women teachers and their respective salaries.

TABLE 50.—*Relation of years of experience of men teachers to salaries.*

Salary.	Years of experience.																							Total.
	0	1	2	3	4	5	6	7	8	9	10	11	12–14	15–17	18–20	21–23	24–26	27–29	30–32	33–35	36–39	40–49	50–59	60	
$300–$324	21	5	17	4	1	...	1	...	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	52
325–349	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
350–374	7	4	6	1	...	2	...	2	2	1	1	...	2	1	...	...	...	...	...	...	...	...	...	...	29
375–399	3	2	2	2	4	4	4	2	1	2	...	2	1	3	1	...	...	1	1	1	1	2	...	...	39
400–424	2	1	2	1	5	7	7	4	1	5	3	...	14	12	11	7	9	5	3	3	5	3	3	...	113
425–449	2	1	...	...	1	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	2	...	...	9
450–474	...	...	1	...	2	1	3	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	9
475–499	4	1	...	...	3	1	3	...	1	...	...	...	2	...	3	...	4	...	1	3	1	1	...	...	28
500–524	1	...	...	...	1	...	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	6
525–549	...	...	1	...	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4
550–574	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2
575–599	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3
600–624	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
625–649	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
650–674	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
675–699	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	40	15	31	10	17	17	20	9	7	8	7	3	21	17	16	8	14	7	7	7	7	8	3	...	299

Median years of experience, 7; median salary, $406. r=.20 P. E.=±.037.

TABLE 51.—*Relation of years of experience of women teachers to salaries.*

Salary.	Years of experience.																							Total.
	0	1	2	3	4	5	6	7	8	9	10	11	12–14	15–17	18–20	21–23	24–26	27–29	30–32	33–35	36–39	40–49	50–59	60	
$300–$324	135	31	66	13	7	1	...	3	2	...	1	...	1	...	...	1	...	...	1	...	1	...	...	...	263
325–349	3	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
350–374	53	8	22	13	5	1	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	106
375–399	17	20	17	20	17	13	15	10	6	6	5	6	6	3	2	...	...	...	...	...	1	...	...	...	164
400–424	17	12	10	11	18	7	9	9	2	11	10	4	22	13	7	4	6	5	2	3	4	3	1	...	190
425–449	17	2	7	6	15	10	6	1	...	...	1	1	2	2	1	...	1	2	...	...	...	1	...	1	76
450–474	6	11	6	1	2	1	3	1	1	...	1	...	3	1	3	...	...	...	...	...	...	...	...	...	40
475–499	15	16	14	7	10	14	6	6	1	5	1	4	10	1	1	...	1	2	1	1	...	...	...	...	116
500–524	1	...	2	3	3	2	1	3	3	2	...	1	...	2	1	...	...	2	...	...	...	...	...	...	26
525–549	1	...	6	6	5	5	4	...	4	...	...	2	4	...	2	...	...	...	1	1	...	1	...	...	42
550–574	1	...	1	1	3	1	1	1	...	2	2	...	1	1	3	...	...	...	...	...	...	...	...	...	18
575–599	...	...	...	...	2	...	2	1	...	...	2	...	1	...	1	...	1	...	...	...	...	...	...	...	10
600–624	...	...	...	...	1	...	...	1	1	...	...	...	...	...	1	...	...	1	...	1	...	1	...	...	7
625–649	...	...	...	...	...	...	...	...	...	...	...	...	3	...	1	...	...	...	...	...	...	...	...	...	4
650–674	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
675–700	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	266	101	152	82	89	55	49	37	21	27	23	18	53	23	23	5	9	12	5	6	6	6	1	1	1,070

Median years of experience, 3.2; median salary, $400. r=.20 P. E.=±.0126.

RELATION OF SALARY TO YEARS OF EXPERIENCE.

Among the group of 113 men teachers in Table 50 receiving a salary in the class interval $400–$424, the median step, it is evident that their experience ranges from 0 to 50 or more years. The median number of years of experience of this group is 15; the quartile deviation is 8.5 years, showing that there is an unusually wide varia-

tion in experience. Since the salaries of 52 teachers are found in the step $300–$325, it is apparent that they are holding provisional certificates, which by process of the law insure them a minimum salary of $315, and account for their experience-limit of 3 or less years (with the exception of 5 teachers, as shown in the table) since the State law stipulates that provisional certificates can be renewed yearly by examination for a period of only 5 years. The teachers in this group having more than 5 years' experience probably held provisional certificates before the above provision of the recently passed Pennsylvania school code became effective.[14]

The median years of experience of the entire group of men teachers as shown in Table 50 is 7. It will be noticed that practically all the teachers receive a salary less than $425 and have had less than 7 years' experience. In other words, only 30 teachers or approximately one-tenth of the teachers, are included in the group receiving more than $425 salary and having seven or more years of experience. This means that in the case of 110 men teachers, or 37 per cent of the group who receive a salary in the median step $400-$424 or less, experience—at least beyond the seventh year—is not a factor in determining the increase in salary. It will be seen by inspection that there is little positive correlation in this group beyond the median salary and the median years of experience. The coefficient of correlation was found to be r=.20 (Pearson's Product-Moment Method).

The replies of 1,070 women teachers, as shown in Table 51, indicate that the largest number, 263 teachers, receive a salary of $315. With the exception of five teachers, all of this number report five or fewer years of experience, with 135, or approximately 50 per cent, new teachers without experience. Half of the entire number of women teachers, 535, receive a salary less than $400, and have also had less than 3.2 years of experience. These teachers, like the men teachers, show the greatest range of experience of 0 to 50 years for the class interval in which the median salary is found, namely, $400–$424.

By drawing a line through the median years of experience, 3.2, and the median salary, $400, nearly 400 of the total group will be included in the small quadrant from $315 to $400 salary and from 0 to 3 years of experience.

Just as the same amount of salary is paid to a group of teachers having a wide range in years of experience, so it can be seen at a glance that there is an equal diversity in the salaries paid to those having had the same amount of experience.

While there is a positive correlation between years of experience and salary of .20 in the case of the men teachers and .20 in that of the women teachers (Pearson's Product-Moment Method), it is evident from the tables that these relationships are probably due to the grouping of salaries and years of experience about the median points, respectively. It is also apparent that experience seems to center about 2 and 4 years, while salaries group themselves about $385 and $420. The certificate laws in Pennsylvania undoubtedly have a great bearing on this positive relationship in the lower part of the range, since it will be recalled from the previous chapter that 2 and 4 years of experience are required by law of applicants for professional and permanent certificates, and also that $10 and $15 monthly minimum salary increases above the minimum salary for provisional certificates are required by the same law for each successive type of certificate.[15] Of course the working out of the minimum salary law in itself would in a sense automatically cause this positive relationship.

The data seem to establish the conclusion that there is less positive relationship than might be expected in ascending the scale of experience and salary, and that the falling off is most marked above the various medians indicating very little relationship between higher salaries and longer years of experience.

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[14] Pa. Sch. Laws, and app., 1919, Art. XIII, sec. 1302.

[15] Pennsylvania School Laws, 1917, Art. XII, sec. 1210.

NUMBER OF INCREASES IN SALARY AS RELATED TO YEARS OF EXPERIENCE.

Since it has been shown that the factor of years of experience in general does not determine the amount of increase in salaries, let us now examine Table 52 to see what relation, if any, exists between the number of increases and years of experience. While over 500, or one-half the number of the 1,018 teachers submitting this information, have a median experience of 6.4 years, they had their salaries increased only three times. In other words, the average number of years of experience is slightly more than twice the average number of increases in salary for the same group of teachers. At first glance one would think this to be quite a good median relationship, but after studying the table more carefully, it is evident that there is probably very little correlation beyond 12 years of experience and 5 increases in salary. A large proportion of teachers receiving 3 and 4 increases, respectively, have been teaching more than 12 years.

TABLE 52.—*Relation between number of increases in salary and years of experience.*

Years of experience.	Number of increases in salary.											Total.
	0	1	2	3	4	5	6	7	8	9	10	
1	33	62										95
2	36	113	8									157
3	10	49	21	7								87
4	10	21	35	16	4							86
5	4	16	24	17	1							62
6	4	11	30	15	3							63
7		5	20	16	2							43
8	1	4	10	9	6							30
9	1	3	10	9	4	2						29
10		1	16	8	5	3						33
11		1	6	4	4	2						17
12		1	7	11	10	1						30
13			4	5	5	2						16
14			4	8	7	5						24
15		1	1	3	9	8						22
16			1	1	2	3	2					9
17			4	7	8	6	2					27
18				6	4	2	1					13
19			2	4	4	2						12
20				2	9	3	3					17
21			3	5	2	2	1					13
22			2		3	1						6
23				1	1	2	1					5
24				1	3	1	1					6
25					1	3	1					5
26			1	2	3	1		1				8
27					1	1	2					4
28			1	1	2	4	3	1				12
29					1	2	2					5
30–31				5	1	2	2	5	1			16
32–33			1	2	4	5	4		1			17
34–35			1	1	3	3	2	2	1			13
36–37					3	1		3	1			8
38–39					1	2	1	1			1	6
40–44	1		1	2	3	2	3	2				14
45–49	1					1			1			3
50 and above				1	1	2		1	1			6
Total	101	288	213	169	120	74	31	16	6		1	1,019

r=.50 P. E.=±.016.

The important fact to be conveyed by this table is that the range in years of experience for teachers who have had no increase in salary is from 1 to 9; for those who have had 2 increases in salary, from 2 to 40; and for those who have had 3 increases the range is from 3 to 50 or more years of experience, with a median of 9.5 years. The data seem to show rather conclusively that teachers, at least beyond the median years of experience, 6.4 years, in many cases have not had the number of increases in salary determined by the years of experience. There is a positive correlation for the group as a whole, which can be indicated by r=.50 P. E.=±.016 (Pearson's Product-Moment Method).

AGE OF MEN AND WOMEN TEACHERS AS RELATED TO SALARY.

Tables 53 and 54 show the salaries paid to men and women teachers on the basis of their ages. It will be seen that in Table 53 a large majority of the men teachers are 25 or less years of age. Beyond this age there seems to be practically no positive relationship between ages and amount of salary received. This can be illustrated best by studying the group of teachers receiving the salary of the median step, $400–$424, in which the distribution of ages extends all the way from 19 to 69 years. Since the median age of men teachers reporting is 27.3 years, it is especially interesting that the ages of the middle 50 per cent of this group of 118 teachers range from 28 to 45 years. In looking over the table more carefully, it is noteworthy that only 33 teachers beyond the age of 25, or approximately one-tenth of the group, receive more than $420.

TABLE 53.—*Relation of age of men teachers to salary.*

Ages.	$300–$324	$325–$349	$350–$374	$375–$399	$400–$424	$425–$449	$450–$474	$475–$499	$500–$524	$525–$549	$550–$574	$625–$649	$700	Total.
18	13		3			1								17
19	19		3		1	1								24
20	13	1	4	4	2	1	1							26
21	11	1	3	3		1	1	1		1				22
22	5		3	2	6	2		2						20
23	2		1	5	1		2	3					1	15
24	1		1	5	4	1		2		1				15
25			2	6	7		2	1	1					19
26				4	4									8
27			1	5										6
28				1	7									8
29				4	2			1						7
30			1	2	5	1		1	1					11
31	1			1	3		1							6
32			1	2	3									6
33					4									4
34			1	1	4									6
35					1									1
36				3	4	1								8
37				1	4			1						6
38					1		1	1						3
39			1	1	4									6
40			1	3	3									7
41					2	1			1					4
42				1	6			2						9
43					4									4
44					2				1					3
45				1	8							1		10
46					1	1								2
47		1		1	5			2						9
48					2			1						3
49								1						1
50				2	7	1	2	2			1			15
55			2	1	5			1						9
60			1	2	2	2	1	3						11
65 and above					4									4
Total	65	3	29	61	118	14	11	25	4	2	1	1	1	335

r=.41. P. E.=±.0312.

TABLE 54.—*Relation of age of women teachers to salary.*

Ages.	$300–$324	$325–$349	$350–$374	$375–$399	$400–$424	$425–$449	$450–$474	$475–$499	$500–$524	$525–$549	$550–$574	$575–$599	$600–$624	$625–$649	$650–$699	$700	Total.
18	78		29	5	3	6	1	2									124
19	80		26	17	5	19	6	12	1								166
20	78	2	18	12	11	15	6	19	2	1							164
21	29	2	15	30	14	12	13	7			1						123
22	15	1	13	13	12	10	3	12	2	4	1	1					87
23	8	2	9	20	5	9	6	12	1	3							75
24	5	2	3	12	12	5	1	3	5	1	2		1				52
25		1	5	12	8	3	1	3	1	2	1	2	1				40
26	2	1	3	5	1			1		2			1				16
27	5		3	8	6	5	1	6	2	1					1	1	39
28			2	6	8			2		1	1	1	1				22
29			1	8	4		1	4	1	1	1	1	2	1			25
30			1	3	6	1	1	4	3		2					1	22
31	3			2	8		3	4	1		3		1				25
32	2			1	6		2	2	1	1							15
33	1		2		2	1		1									7
34				1	5	1		2									9
35			1	2	4	1		1									9
36			1	1	5	1		3			1						12
37			1			1						1		1			4
38				1	4	2	1	3		1		1					13
39					1		1	1			1						4
40			1	1	1	1	1	2					2				9
41				1	2												3
42			1		1	1				1							4
43				1	2	1		2	1		1						8
45				1	2	1	1	1	1								7
46					1			1		1							3
48					1	1		2									4
49				1				1									2
50	1				2	2		1		1			2			1	10
55			1		1	1		1				1	1				6
60 and above										1	1		1				3
Total...	307	11	136	164	143	100	49	115	22	22	16	8	13	2	1	3	1,112

r=.42. P. E.=±.016.

In the case of the women teachers, one can easily see by inspection of Table 54 that there is a positive correlation existing between ages and salaries. It is rather surprising too, that as many as 500 women teachers are represented in the quadrant bounded by the medians 22 years in age and $400 in salary. The largest range in salary, $315 to $700, is found at the age of 27, and at least 80 per cent of the entire group of women teachers range in age from 18 to 27 years. The same condition holds true in this group as in the case of the men teachers, in that the range of ages is largest in the median salary step. However, we can not help but observe the long range in ages in the case of practically each salary paid, which can be well illustrated in the first class interval, $300–$324, in which the largest proportion of the entire group receiving the smallest salary, range in ages from 18 to 32 years.

Probably the outstanding fact in the data just presented is the scattering of cases both in respect to salary and age. While there is a definite positive relationship evident in the case of both men and women teachers between the age 22, or possibly 25 years, and a salary of $420 or less, on the other hand, there is practically an entire lack of positive relationship between ages and salaries in ascending the scales beyond these points. The relationships expressed in figures of correlation are r=.41 for men teachers and r=.42 for women teachers (Pearson's Product-Movement Method). In other words for the entire group of men teachers and women teachers there is only a slight tendency for older teachers to receive the higher salaries.

YEARS OF EDUCATION AS RELATED TO SALARY.

In Table 55 the teachers are listed according to the number of years of education which they have had beyond the elementary schools, comprising the work done in high schools, normal schools, and colleges. In comparing the distribution in education ranging from 0 to 8 years with salaries received, it is at once noticeable that there is practically no definite tendency shown, as evidenced by the negligible correlation r=.04. Teachers with 0 years of secondary or higher education receive salaries from $315 to $600, while those with 4 or 5 years' academic or professional training beyond the elementary grades also receive salaries extending over the same range, with the largest number of teachers in each case receiving the minimum salary of $315. From the standpoint of salaries, the group receiving $315 and the group receiving $520 have secondary training extending over the same range of 0 to 6 years. These rather striking data further emphasize the fact that school authorities frequently fail to recognize by adequate tangible reward the education of teachers secured either before entering service or during service. It also further helps to establish the evidence previously expressed that years of experience, type of certificate, and local prerogative on the part of school boards are the predominating factors in determining salaries rather than academic or professional preparation in educational institutions. It would seem that the very low salaries paid rural teachers and the nonrecognition of standard practice in establishing salary schedules are directly or indirectly the principal causes of most of the unfavorable phases of the status of the rural teacher as brought out in this study.

TABLE 55.—*Relation between the years of education beyond the elementary school and salaries.*

Salary.	Years of education.										Total.
	0	½	1	2	3	4	5	6	7	8	
$300–$324	85	45	36	51	62	60	12	2	.....	.....	353
$325–$349	5	2	.....	2	1	.....	.....	.....	.....	.....	10
$350–$374	13	5	3	5	16	35	3	.....	.....	.....	80
$375–$399	67	33	33	30	41	23	5	5	2	.....	239
$400–$424	85	38	46	45	36	35	10	13	4	.....	312
$425–$449	21	10	12	11	13	18	12	11	3	1	112
$450–$474	11	6	8	5	5	4	3	2	.....	.....	44
$475–$499	24	6	10	11	18	13	8	7	2	.....	99
$500–$524	6	1	2	1	3	1	2	1	.....	.....	17
$525–$549	8	4	3	4	5	3	1	1	1	.....	30
$550–$574	3	1	1	6	1	.....	1	.....	.....	.....	13
$575–$599	1	1	2	2	1	.....	.....	1	.....	.....	8
$600–$624	2	1	.....	2	.....	1	1	.....	.....	.....	7
$625–$649	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
$650–$700	.....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Total	331	153	157	175	203	193	58	43	12	1	1,326

Median salary=$398. Median years=2.1. r=.04. P. E.=±.018.

Chapter VIII.

SUMMARY.

1. This study of the status of the rural teacher in Pennsylvania is based principally on a questionnaire distributed among the teachers in the one-teacher rural schools of 18 counties of the State. Out of the 1,450 questionnaires returned, 1,110, or 76.5 per cent, were answered by women; and 340, or 23.5 per cent, by men, averaging 62 per cent of the teachers enrolled in the one-teacher schools in each county respectively. Pennsylvania, with 10,038 one-teacher schools, ranks third among all the States of the United States, being outnumbered by Illinois and Iowa. Over 53 per cent of the teachers under county superintendents' supervision are teaching in one and two teacher schools, of which 42 per cent are in the one-teacher schools. The number of one-teacher schools varies throughout the 66 counties from 22 to 361, with the median county having 150. These counties range in size from 130 to 1,200 square miles, but the number of square miles to each one-teacher school ranges from 2.4 to 17.8 square miles.

2. In analyzing the *social and economic status* of the rural teacher it has been found that the percentage of men teachers, 24 per cent as compared with 76 per cent of women teachers, is greater in Pennsylvania than in any State of the Union for which there are data available, and greater than in the United States as a whole. The average age of beginning teachers is 19.2, but the ages of teachers range from 18 to 65, with an average of 22 years for women teachers, and of 26.7 for men teachers. Eighty-one per cent of the rural teachers are born and reared in the country districts and 19 per cent in boroughs and cities. One-half of the teachers participate on Saturday and Sunday in the social life of the community in which they are teaching.

Sixty per cent of the teachers pay for board and room amounts ranging from less than $50 to more than $250, with an average cost of $121 per year. On a monthly basis the average cost is $16, with the lowest amount $6 and the highest $30 or more per month. Only 9 per cent of the teachers are obliged to meet these living expenses for the entire calendar year. These facts substantiate the prevalent belief that living expenses for rural teachers are on a much lower scale than those of urban teachers.

Twenty-five per cent of the teachers, of whom most are men, receive an income of $200 or less, in addition to their teaching salary. It is rather surprising that approximately 40 per cent of the teachers have saved on an average approximately $100 per year from their meager salaries. Among this thrifty group are included the small percentage who carry life insurance and are members of beneficial associations, expending as dues from $5.20 to $150 per year. Practically all in this group subscribe for educational magazines and reference books in amounts from $0.50 to $50 per year.

3. Investigation of the *working conditions* of rural teachers shows that their schools range in size from 3 to 68 pupils, with an average of 26. The number of grades varies from 2 to 10, with the median falling among the group having 7 grades; however, 41.8 per cent of the schools are organized as eight-grade schools. The median number of class recitations is 25.6, varying from 9 to 50 per day; and 25 per cent of the teachers have school programs of 30 or more recitations per day. The data clearly indicate an extremely low correlation between the number of class recitations per day and

the number of pupils enrolled, showing that a great proportion of the smaller schools are among the group having the larger number of daily recitations.

Only 31 per cent of the schools have libraries containing from 10 to 400 volumes, but 43 per cent of the rural teachers have access to libraries apart from the school library, for obtaining books and materials to aid them in their teaching. Since teachers in Pennsylvania are obliged to attend county institutes, it is quite surprising that 72 per cent voluntarily attend regularly the county local institute intended to help train teachers in service. Furthermore, as stated previously, teachers subscribe generally for educational and other current magazines of the type listed in Table 18 of the context.

The fact that rural teachers are supervised only from 15 minutes to 8 hours per school year and that the superintendent makes on an average one visit each year of from 30 minutes to one hour shows plainly that one of Pennsylvania's greatest needs is such a complete revision of the system of rural school supervision as shall involve much greater supervisory assistance. It should be recalled that county superintendents have no assistance in their work unless they have 200 or more teachers under their jurisdiction. In the counties that have assistant county superintendents, the average time spent by them in visiting each school, in addition to that spent by the county superintendent, is 2 hours per year. According to the statement of 69 per cent of the teachers, one or more school directors have visited their schools at least once during the year. Upon the impression gained from this visit frequently depends the election or reelection of a teacher, since, according to the replies of 70 per cent of the teachers, little or no consideration is given by the directors to the judgment of county or assistant county superintendents.

There seems to be very little community cooperation in the rural districts, as evidenced by the fact that only 28 per cent of the teachers reported the existence of parent-teacher organizations or any other type of community activity in connection with their schools. Since, in addition to this, very few patrons or residents of the various school communities take any interest in the schools, it would seem that a vital need in the rehabilitation of the rural schools is the development of an increased support and of a more sympathetic interest not only in the personal welfare of the teachers on the part of patrons and citizens, but also in the teacher's professional status and opportunities for growth on the part of administrative and supervisory officers.

4. In summarizing the *academic and professional training* of rural teachers, Pennsylvania has a very low standing in comparison with other States. Eighty per cent of the teachers received their elementary education in township schools in periods of 5 to 12 years, and the remaining 20 per cent in boroughs from 5 to 11 years, the average length being 68.2 months and 70.8 months, respectively, on the basis of the average length of school year for townships and boroughs. Thirty-nine per cent of the same group of teachers had had no training in a secondary school; and of the 61 per cent who attended secondary schools, only 22 per cent completed a four-years' course. It should be stated that some of the teachers who had never attended a recognized secondary school had received some academic instruction in high-school subjects given in the ninth and tenth grades in one-teacher elementary schools.

As to the professional training of this group of teachers, 76 per cent had no normal school training, and of the remaining 24 per cent attending a normal school for periods ranging from 6 weeks to 4 years in length, only 18 per cent completed the course. The extreme variations in preliminary training, evidenced from the fact that 55 per cent of the normal school graduates had not had secondary training, as well as the varied amount of time actually spent by teachers in preparation in normal schools, are largely due to the normal school system, which for a number of years received students with all types of training from the completion of an elementary school course to that of a standard four years' secondary course.

As regards further training during service, 62 per cent have had no academic or professional schooling since entering the profession. Of the 38 per cent who had such supplementary education 10 per cent attended summer private academies, 8 per cent summer local or county normal schools, 12 per cent summer State normal schools, and 6 per cent summer colleges, all ranging from one to four terms of six weeks' duration. The determining factor in the selection of an institution was found to be the type of certificate held and the institution most accessible.

Since only 13 counties have State normal schools within their boundaries, and since the 53 remaining counties must depend in a large measure upon private academies and summer county or local normal schools to provide opportunities for teacher training, it is evident that one of the pressing problems before the State is the provision for properly organized training facilities in high schools, in county training schools, or in additional State normal schools, if the supply of educationally and professionally trained teachers shall in any way meet the demand in the rural districts.

5. Regarding the *certification* of rural teachers in Pennsylvania, there is undoubtedly need for more exacting certification laws, as well as for the establishment of a larger number of accredited teacher training institutions. In 1919–20, on the basis of a study of the directories of 28 counties, including all the teachers, the percentage of the various types of certificates held by teachers in one-teacher schools is as follows: Provisional 52, professional 24, permanent 10, and normal school 14, with such extreme variations among counties as 19 to 73 per cent in the case of provisional certificates; 2 to 40 per cent, professional certificates; 1.9 to 36 per cent permanent certificates; and 0.5 per cent (1 out of 179 teachers) to 68 per cent (147 out of 216 teachers) normal school certificates. The data further emphasized the fact that 76 per cent of the teachers hold provisional and professional certificates, obtained through examinations given exclusively by the 66 county superintendents of the State.

In the two and more than two-teacher schools, 25 per cent of the teachers hold normal-school certificates, and 32 per cent provisional certificates, in contrast with the 14 per cent and 52 per cent, respectively, in the one-teacher schools in the same counties. This inequitable distribution of the qualifications of teachers, as evidenced by certificates, is still further emphasized in the fact that 58 per cent in the borough elementary schools of the same counties are normal-school graduates, while only 6 per cent of the teachers hold the provisional—the lowest type of certificate.

Examination of the certificate situation of five typical counties over a period of three years, 1917–1919, showed a tendency toward marked increase in the number of provisional certificates and a consequent decrease in the number of normal-school certificates, in spite of the fact that the county showing the largest decrease in normal-school graduates had a normal school located within its boundaries.

The median experience of the teachers on the basis of their certificates is for provisional certificates 0.9 year, for normal-school certificates 4.5, for professional certificates 4.9, and for permanent certificates 15.9 years. From the standpoint of age, the average for teachers holding provisional certificates is 20.3 years, professional, 24.8 years, normal school, 23.9 years, and permanent, 37.3 years.

In considering the certificates of the teachers on the basis of their academic and professional training, the largest proportion of those holding permanent and normal-school certificates or diplomas have had no training in secondary schools. Of the number completing a four-years' course in a secondary school, the largest proportion hold provisional certificates and only 6 per cent have obtained permanent or life certificates.

6. The *experience* of teachers in the one-teacher rural schools averages 3.7 years, ranging from the "beginner" to the one having had 55 years of teaching service. The average experience for men teachers is 7 years, and for women teachers 3.2 years. The investigation also showed that the average number of places taught by the entire group is 3, and that 24 per cent taught in from 5 to 20 different schools. The correla-

tion between the number of places taught and the years of experience was found to be very high, namely r=.79.

The facts concerning the stability of the teaching force for the entire State over a three-year period indicate that in the 10,000 one-teacher schools, 4,100 would have three different teachers, 4,400 one teacher for two years and one teacher for one year, and only 1,500 one teacher over the entire three-year period. This unusually high proportion of instability of the teaching corps should receive the serious and immediate attention of the educational leaders of the State.

In examining the teachers' directories of 18 counties of the State for 1919–20, 30 per cent of the 2,640 teachers in one-teacher schools are "beginners," and 37 per cent of the teachers, while experienced, are now teaching in a new position, making a total of 67 per cent of the one-teacher schools of these counties with either an experienced teacher in a new position or a new teacher without any teaching experience. On the other hand, in the two-teacher schools of the same counties, only 12 per cent are new teachers without any experience and 33 per cent are experienced teachers in a new position. This again demonstrates the tremendous handicap of the one-teacher schools as compared with the other types of schools under county supervision.

On the basis of the facts in this study and of others referred to in this monograph, the schools of Pennsylvania will require each year to meet their needs between 5,000 and 6,000 new teachers. From the fact that normal-school principals tell us that on an average only 15 per cent of their graduating classes enter one-teacher rural schools, it is evident that, on the basis of 2,000 State normal-school graduates, there are only approximately 300 trained teachers available to fill the 3,000 vacancies in one-teacher schools. Surely it is most imperative that additional training facilities as well as a full capacity of the State normal schools now in existence must be provided, or the vacancies throughout the State will necessarily have to be filled with an inadequate and poorly trained teaching force.

7. According to the data for the year 1918–19, the *salaries* of the teachers in one-teacher schools averaged $411, while those of teachers in two and more than two-teacher schools averaged $519. This difference of $109 in salary between the one teacher and two and more than two-teacher schools frequently occurs in the same township under the same board of education, thus specifically indicating the great inequalities in the educational conditions and in teacher standards existing in these types of schools. The median salary of borough teachers in the same counties is $588, which is $69 higher than the median salary, $519, paid to teachers in the two and more than two teacher schools, and $177 higher than the median salary, $411, paid to the teacher in the one-teacher schools. This salary situation explains at least in a large measure the instability of the teaching force among the smaller villages and rural districts.

The length of school term, always a determining factor in explaining teachers' salaries, was found to average in townships 7.6 months, and in boroughs, 8.6 months. The minimum school term of 7 months required by law exists in 58 per cent of the townships, and in only 11 per cent of the boroughs. The significance of these data is that the teachers in the one-teacher schools receive on an average $14 per school month less than the teachers in the two and more than two-teacher schools in the same townships with the same length of school term, and frequently controlled by the same board of education. It would seem that these facts furnish a strong argument in favor of some scheme for equalizing educational standards. This might be brought about by an equitable salary measure for the rural teachers in the one-teacher schools, such as the "bonus" scheme as recognized in the Wisconsin salary law and to some degree in the Woodruff salary bill for Pennsylvania, or by some radical change in the form of unit of administration, such as a county-local unit with more centralized control over local units, or a county unit with a small county board of education. In 75 per cent of the cases school boards pay teachers the minimum salary required by

law and do not seem to recognize the academic or professional training of teachers either before entering service or while in service. In increasing salaries their main consideration is apparently such mandatory legislation as the kind of certificate held and the minimum salary law. In only 10 per cent of the cases was it reported that school boards considered such factors as experience and efficiency in placing teachers and determining salary schedules.

The correlation between years of experience and salaries of men and women teachers was found to be very low: namely, r=.20 and r=.20, respectively, indicating that teachers receiving, for example, a salary of $420 might have from no experience to 50 years of experience and at the same time teachers with two or three years of experience received salaries from $315 to $700. The fairly low correlation of the number of increases in salary to the number of years of experience offers further proof that experience is practically an insignificant factor.

These findings are a recapitulation or a summary of the outstanding facts concerning the different phases of the status of the rural teachers. It should be kept in mind that it was not primarily the purpose of this survey to offer remedial or constructive measures in the solution of the problems revealed by the investigation but rather to make such observations and suggestions as the evidence safely warrants. It will, however, serve its purpose if the facts and conclusions set forth, and the methods used in establishing their reliability, will help constructively to solve one of the greatest problems in the field of American education—*the problem of the rural school.*

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